TECHNOLOGY DEPT.

NEW EQUIPMENT DIGEST

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Volume 18—Number 11

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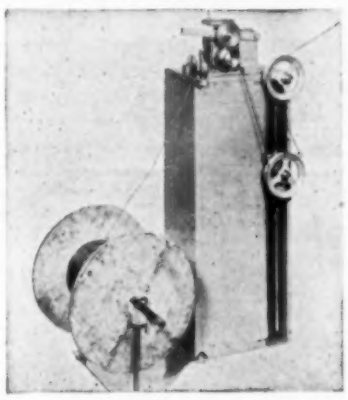
CHECK AND PASS ALONG

✓	NAME	See No.

Use Inquiry Slips—Pages 8 and 104

EQUIPMENT • MATERIALS • PROCESSES • DESIGNS • APPLICATIONS • LITERATURE

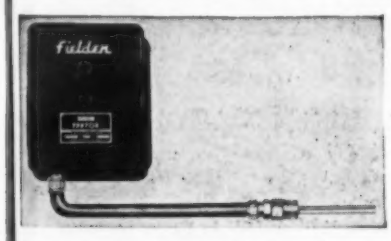
WIRE FEEDER
for cutting and stripping machines



Uniform work is assured and damaged wire insulation is prevented by model AE-266 stock prefeeder which synchronizes stock feed with the operating speed of wire measuring, cutting and stripping machines. It is especially useful where large or heavy stock reels are used. Unit is independently powered and is equipped with a scale for setting to the same reading as the scale on the stripping machine. Coil in the prefeeder starter is energized from stripping machine control circuit, so that both operate simultaneously. Made by **Artos Engineering Co.,** 2751 S. 28th St., Milwaukee 46, Wis.

▲ For more details circle **NED-1 L3** on enclosed inquiry slip ▲

LEVEL CONTROL
regulates to as close as 1/16 in.



A capacitance unit with no moving parts, Tektor level control provides regulation to as close as 1/16 in. of liquid, divided solid, interface, conducting or nonconducting, wet or dry materials. Simplified electronic circuit operates by change in the electrical capacitance of the sensing electrode caused by the approach of the material. Electrodes are rigid rods or disks, can be sheathed in corrosion-resistant material, and are available for pressures to 2000 psi and temperatures to 1500° F. Fail-Safe and low and high level models are available, with trimmer adjustment accessible without removing cover. Instrument operates on 115 v 60 cycle power supply. Made by **Robertshaw-Fulton Controls Co.,** Fielden Instrument Div., 2902 N. Fourth St., Philadelphia 33, Pa.

▲ For more details circle **NED-2 L3** on enclosed inquiry slip ▲

LABORATORY MIXER
for use with hazardous fluids

Motor of the Lightin laboratory mixer is UL approved for Class I, Group D and Class II, Groups E, F and G service. It is designed for fluid mixing, blending, solids suspension and gas dispersion and for use in mass transfer and heat transfer studies. Low viscosity fluids can be mixed in quantities up to 50 gal, but high viscosity fluids must be mixed in smaller quantities. Mixer clamps on the rim of any vessel, or to a separate support. It adjusts to any desired angle. Tube, chuck, changeable shaft and propellers are of type 304 stainless steel. Various shafts and propeller types and metals are available. Made by **Mixing Equipment Co.,** 165 Mt. Read Blvd., Rochester 11, N. Y.

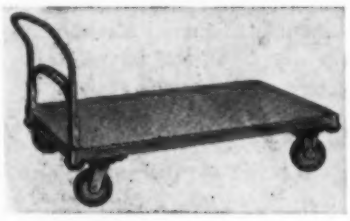
▲ For more details circle **NED-3 L3** on enclosed inquiry slip ▲

AIR SCALER
three heads give fast action

Used for cleaning rust, paint and scale from metal surfaces, model 326 air operated scaling tool incorporates three piston type rotary chipping heads for speedy operation. A lever cock valve is standard equipment, though a lever air-drill type throttle is also available. Stellite tipped pistons are another optional feature. Unit weighs 7½ lb and has a cross-head length of 4⅜ in. It can also be used for cleaning the insides of large castings. Made by **Thor Power Tool Co.,** 175 N. State St., Aurora, Ill.

▲ For more details circle **NED-4 L3** on enclosed inquiry slip ▲

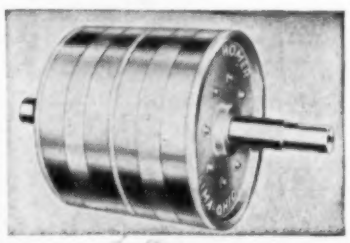
PLATFORM TRUCK
ten magnesium models available



This series of four-wheel magnesium platform trucks is available in ten lightweight models, each rated to handle loads up to 1000 lb. Unit is designed for general materials handling purposes, and uses standard and replaceable components throughout. Handles are reversible and can be installed at either end of the platform, and are also interchangeable so that they can be replaced with special racks or superstructures. Made by **Magline, Inc.,** P. O. Box 200, Pinconning, Mich.

▲ For more details circle **NED-5 L3** on enclosed inquiry slip ▲

PERMANENT MAGNETIC PULLEY
used with 36-in. wide belt



Forty-two inches in diameter, this permanent magnetic pulley has a 38-in. crown face and 36-in. belt width. Installed in a 200-ft long slope conveyor at an Aluminum Co. of America plant it operates at 27 rpm to give the belt a speed of 300 fpm. Slope of the bauxite ore conveyor is 3⅛ in. per 12 ft and depth of material varies up to 8 in. Pulley made by **Homer Mfg. Co.,** Dept. 124, Lima, O.

▲ For more details circle **NED-6 L3** on enclosed inquiry slip ▲

BEARING ALLOY
combines impact resistance, hardness

Combining impact resistance and hardness, Frix bearing overlay material in electrode form is said to show wear resistance several times greater than that of conventional bronze welding rods or electrodes after a short heat treatment. It is a mixture of a soft mass with embedded crystals of wear resistant copper alloy. Deposits also possess elasticity and lubricating properties provided by lower melting point alloys included in the formulation. Film-like deposit can be heated to form an integrated bearing. Frix is made in range of sizes by **Eutectic Welding Alloys Corp.,** Dept. P, 172nd St. & Northern Blvd., Flushing 58, N. Y.

▲ For more details circle **NED-7 L3** on enclosed inquiry slip ▲

MINIATURE HYDRAULIC VALVE
handles fluids up to 1000 psi

Compact V10-1000 miniature hydraulic valve can be utilized as a two or three-way valve in either normally open or closed positions. Principal applications are in automatic operation of single and double-acting hydraulic cylinders or for pilot control of large three and four-way hydraulic valves. It handles hydraulic fluids at pressures up to 1000 psi. Internal parts are stainless steel. Valve has ⅛-in. NPT threaded ports, effective orifice diameter of 3/32-in. and measures 3 7/16 in. high by 1⅝-in. diameter. Range of alternating and direct current voltages is available. Made by **Skinner Chuck Co.,** Skinner Electric Valve Div., 112 Edgewood Ave., New Britain, Conn.

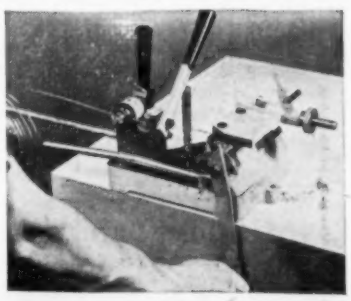
▲ For more details circle **NED-8 L3** on enclosed inquiry slip ▲

TIME DELAY RELAYS
for two-delay step circuits

Applicable to control circuits requiring two time delay steps or momentary impulses, NET Agastat relays incorporate an adjustable auxiliary switch. Overall time delay is adjustable from 0.1 second to 10 minutes or more, and auxiliary switch can be set to operate at any time from 0 to 15 seconds after the start of the overall period. Four models are available: No. 11 and 12 are single-pole, double-throw, double-break, and No. 21 and 22 double-pole, double-throw single-break types. Relay switch rating is 15 amp at 115 v and auxiliary switch rating is 10 amp at 115 v. Many different operations from momentary impulses to complex delay-contact sequences, are possible. Made by **Elastic Stop Nut Corp. of America,** A'G'A Div., 1020 Newark Ave., Elizabeth 3, N. J.

▲ For more details circle **NED-9 L3** on enclosed inquiry slip ▲

SPRING WINDER
for one-piece or short run work



Adaptable both for short run production work and individual jobs, Di-Acro hand-operated spring winder can be operated without any experience or special skill. Tension clamp mechanism automatically winds duplicate springs which test to the same load capacity. Unit mounts on a bench or in a vise and incorporates its own cut-off lever. Any gage wire up to ⅛-in. diameter can be wound into extension, compression, torsion and flat springs. Round, flat, square or rectangular stock can be formed into springs of any length. Made by **O'Neil-Irwin Mfg. Co.,** 582 Eighth Ave., Lake City, Minn.

▲ For more details circle **NED-10 L3** on enclosed inquiry slip ▲

NEW! VALVAIR SPEED KING SOLENOID PILOT OPERATED CONTROL VALVES

The New Valvair Speed King line is complete — 3-way, 4-way, 4-way-5-port (2-pressure), foot-mounted or sub-base manifold mounted; pipe sizes — ¼", ⅜", ½", ¾", 1". A precedent-breaker in size, weight, speed and endurance. *Get all the facts!*

VALVAIR CORPORATION *Affiliate: Sinclair-Collins Valve Company* 947 BEARDSLEY AVE., AKRON 11, O.
REPRESENTATIVES IN PRINCIPAL CITIES

Rely Upon Valvair DIVERSATILITY

ASK FOR BULLETIN "N-11."

▲ For more details circle NED-12 L3 on enclosed inquiry slip ▲

How To Keep Up-to-date

"Twenty-eight per cent of present production equipment and manufacturing processes are already obsolete or inadequate" according to an industry-wide survey by the American Society of Tool Engineers. This study covered practically all fields including metalworking equipment, inspection methods, materials handling, production welding, and grinding and finishing. Regular readership of NEW EQUIPMENT DIGEST provides the means for replacing the "obsolete or inadequate" equipment in your plant.

Keeping readers fully informed of the important new or improved equipment, materials or processes is the primary purpose of this publication. Every issue contains one or more products that will improve the efficiency of some operation within your company. There's also a quick and simple way to get complete information on any new or advertised product that interests you—the postpaid self-mailing inquiry slip that's a part of each issue. Use it and profit.

A. N. Gregg
EDITOR

BAR STOCK HANDLING RACKS

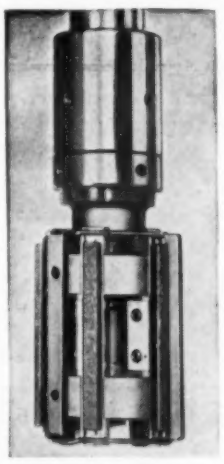
FAB-WELD Bar Stock Handling Racks are designed to handle bar stock, pipe and other mill length materials in either bundle or loose form, in capacities up to 10,000 pounds.

These racks can be arranged for handling with a Heppenstal Automatic "One Man" Rack Tong, with power fork trucks or with chain slings and overhead crane. They can also be equipped with all these features. They are fabricated of structural and formed sections; welded into a unit of maximum strength for long service.

Even though these racks can be unit loaded and tiered for storage, they enable bar selection either as a unit load or individual bar. Made by **FAB-WELD CORPORATION,** Salmon & Pickwick Sts., Philadelphia 34, Pa.

▲ For more details circle NED-16 L3 on enclosed inquiry slip ▲

HONING TOOLS available in three types with three kinds of stone expansion



Supplementing line of Barnes-driL honing machines are three types of honing tools, each designed to accommodate a specific style of abrasive honing stone. General purpose type A honing tools (illustrated) and stones feature a quick-clamp stone holder which uses Plas-T-Clad abrasive with interchangeable oversize holders to vary the diameter that can be honed with each tool body. Holders use abrasive sticks with a protective material added to the sides to prevent spalling.

Type B tools use high production style B extra-deep abrasive for long stone life. High production type C tool uses style C stones which do not require stone holders, being held in position by controlled friction. Also equipped with long-life stones, these tools are adaptable for specific applications and small diameter work.

Line of tools is available for bore sizes from 3/16-in. to 60 in. with mechanical, hydraulic or electric expansion. Plugmatic bore-to-bore sizing in which the honed bore is gaged to control directly the termination of the honing cycle as a predetermined size is reached is available. Made by **Barnes Drill Co.,** 866 Chestnut St., Rockford, Ill.

▲ For more details circle NED-14 L3 on enclosed inquiry slip ▲

New... A Measurable, Economical, Simple Method of Applying

V.P.I.* VAPOR PHASE INHIBITOR

• MORE EFFICIENT
• ELIMINATES GUESSING
• SAVES COSTLY WRAPPING
• NO MORE DEGREASING
• IMMEDIATELY EFFECTIVE
•

The Only **RUST PREVENTIVE OFFERING METERED APPLICATION!**

Kerpro V.P.I. is a measured solution of Shell Development Company's vapor phase inhibitor, packed in a convenient, pressurized dispenser...*the only method by which metered application is assured.* A ten-second spray delivers one gram of V.P.I. sufficient to protect a minimum of one cubic foot of space for at least one year. Because *Kerpro* V.P.I. immediately saturates the air in containers, tool cribs, precision instrument cabinets, etc., protection is not dependent upon crystal evaporation... rust protection is *sure* and *immediate.*

SAVES TIME, MONEY & MAN HOURS

Get all the facts on *Kerpro* V.P.I. Rust Preventive. Learn how it saves you real money in wrapping and crating...saves your customers degreasing costs and yet gives your products *positive, measured rust protection.* Your inquiry entails no obligation.

•

Send Coupon With Your Letterhead

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9 South Fairview Avenue, Park Ridge, Illinois

kerpro VPI VAPOR PHASE INHIBITOR

* V.P.I. a Shell Development Co. Product

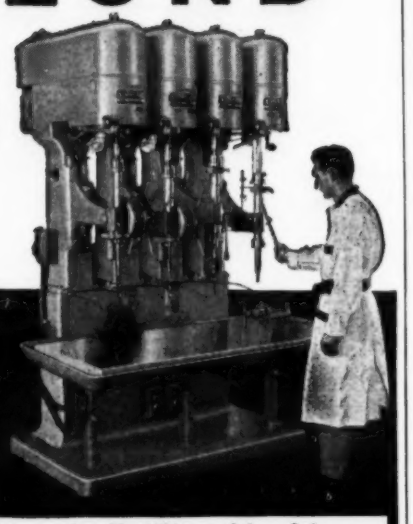
PROTECTIVE COATINGS CORP., 9 S. Fairview Ave., Park Ridge, Ill.
Please send us 12 oz. test sample of Kerpro V. P. I.

☐ Bill us $2.25 on open account. ☐ Remittance enclosed.

☐ Send full details and quantity discounts.

▲ For more details circle NED-13 L3 on enclosed inquiry slip ▲

EDLUND 2F *Infinitely Variable Speed*



INCREASED PRODUCTION
MAXIMUM TOOL LIFE
PRECISION PERFORMANCE

Greatest Advance in Drilling Machines . . . in Past 25 Years

The Edlund new Model 2F with infinitely variable speeds, gives your operator an infinite number of speeds within a broad range. This means correct speed for maximum tool life and greatest production. Speed changes are made instantly without stopping. Convenient controls for easier operation and rigid construction with ample work table area assure precision performance. For complete specifications, write for Bulletin 140.

EDLUND® Dealer Representation in Major Cities
Machinery Co., Cortland, N.Y., U.S.A.
Division Bradley Edlund Corp. ® Affiliated with Precision Castings Co., Inc.

▲ For more details circle NED-15 L3 on enclosed inquiry slip ▲

Browning SPROCKETS

OFF-THE-SHELF
READY-FOR-USE
A Time and Money Saver with

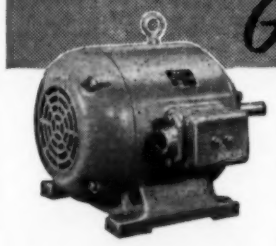
Split Taper Compression Bushings
• NO REBORING
• NO WELDING

Write for Catalog CD 101.
There's a Browning Distributor near you.

BROWNING MANUFACTURING COMPANY MAYSVILLE • • • KENTUCKY

▲ For more details circle NED-17 L3 on enclosed inquiry slip ▲

Great Motors from Great Britain!



• world-famous NEWMAN MOTORS
• net savings up to 40%
• immediate delivery
• unconditionally guaranteed
• superior design— to N.E.M.A. standards

For the first time, the complete world-famous line (2 million installed in 62 countries since 1935) of NEWMAN MOTORS, built to N.E.M.A. standards, is offered to the American Market.

Immediately available from our warehouse in New York in a complete range of squirrel cage and wound rotor types in sizes up to 230 H.P. *Any motor sent free and without obligation for examination and testing.*

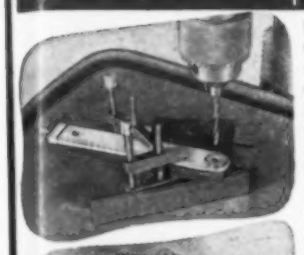
These are new, high-quality motors stamped with the prestige of a great motor-making company. Vast savings, dependability, unconditional guarantee are offered to American buyers.

Write for a catalog and price list to-day

Newman INDUSTRIES (AMERICA) INC.
43 BROAD STREET, NEW YORK 4, N.Y.

▲ For more details circle NED-18 L3 on enclosed inquiry slip ▲

Drill Holes within .001" Accuracy with the Master Optical CENTER LOCATOR



Speediest—Simplest—most accurate method of locating centers and drilling holes. For a decade, machinists have been drilling and spacing holes with the Center-Locator to within .001". Just the thing for drilling round holes in thin material . . . avoiding drill run-outs . . . counter-boring holes with an ordinary drill. Makes your drill press do the work of a jig boring machine!

Easy to operate: Simply lay out your work with a height gauge, locate center through the powerful magnifier, then replace the magnifier with any of 16 drill bushings furnished.

38.50 postpaid or from your dealer. Unconditionally guaranteed.

Bulletin on request

MASTER SPECIALTY CO.
3725 Monitor Avenue
Minneapolis 16, Minnesota

Affiliated with Specialty Products Co.

For more details circle NED-19 L3 on enclosed inquiry slip

YOU ought to pack with the AUTO-PAK! here's why:

You can package your product for protection, for appearance, for ease in handling with the Auto-Pak . . . the versatile, efficient machine that packages such a wide range of products.

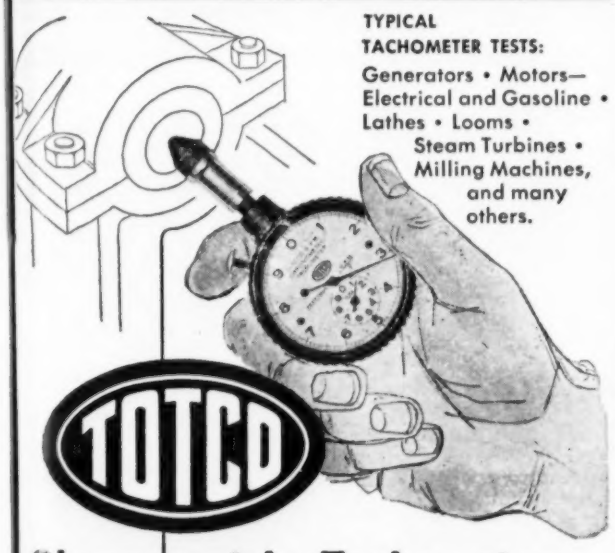
The Auto-Pak automatically forms two sheets of heat sealing material (cellophane, foil, kraft, etc.) around the items to be packaged, seals the four sides, cuts off and delivers a completely sealed, attractive package. The unit delivers as many as one package every second in strips, single or double packs. There are no installation costs with the Auto-Pak. Just plug it in and you're ready to package anything from pills to powder puffs . . . quickly, economically, attractively.

Write for details and your free copy of "Unit Packaged For The Assembly Line"—a booklet describing the job the Auto-Pak does for a leading auto manufacturer.

Packaging eye droppers

PAK-RAPID INC.
530 N. 21st Street LOcust 7-4840 Philadelphia 30, Pa.
N. Y. Representative—I. J. White Co., 70 W. Huston St. A14-0180

For more details circle NED-20 L3 on enclosed inquiry slip



TYPICAL TACHOMETER TESTS:
Generators • Motors—Electrical and Gasoline • Lathes • Looms • Steam Turbines • Milling Machines, and many others.

TOTCO

Chronometric Tachometers

Guarantee ACCURACY to 1/10 of 1%

BUILT TO NAVY SPECIFICATIONS, Totco Tachometers measure with *guaranteed* accuracy.

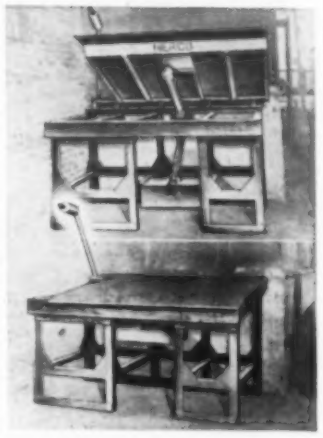
PRECISION MANUFACTURE, EXCLUSIVE DESIGN, STURDY CONSTRUCTION insure trouble-free service, long life. Built-in timing mechanism.

ABSOLUTE GUARANTEE for one year against defects in material and workmanship.

TECHNICAL OIL TOOL CORPORATION
Manufacturers of Precision Instruments
1057 North La Brea Avenue, Los Angeles 38, California

For more details circle NED-21 L3 on enclosed inquiry slip

DOCKBOARD STANDS adds to existing dock area



Self-supporting stand for use with Herco dockboards simplifies installation and increases dock area. Stand is installed in front of existing dock to which it can be welded or lagged into concrete or wood. Since it does not become part of building, entire stand and dock can be moved when necessary. When dock is bought with the stand, it is shipped as a complete unit. Made by **Karl A. Herman Co.**, 333a W. Fulton St., Grand Rapids 5, Mich.

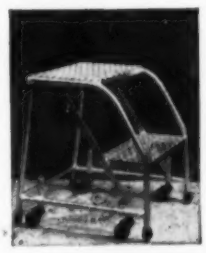
For more details circle NED-22 L3 on enclosed inquiry slip

HOLE DEPTH GAGE attaches to 3/16 to 16/16 in. bits

Fully adjustable No. 47 bit gage quickly attaches to shank of any auger bit size from 3/16 to 16/16-in. After spring is adjusted for correct depth of hole desired, an extra turn of clamping nut locks all parts in place. When depth of hole is reached, tip of spring contacts surface of wood. If boring continues, spring bends, but will not mar surface. Screw on clamping nut is upset so that nut cannot work free, and spring cannot be removed from holder. Made by **Stanley Tools**, 104 Elm St., New Britain, Conn.

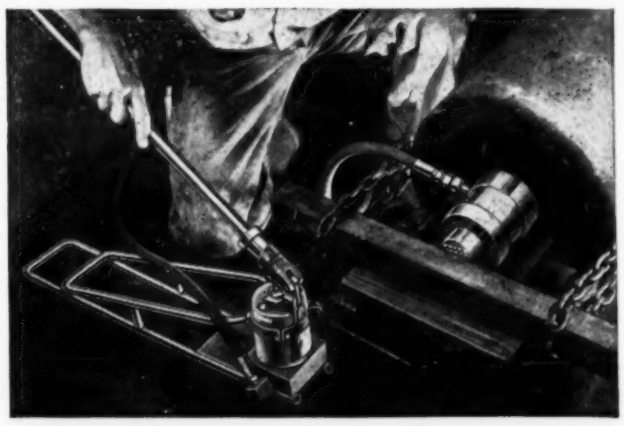
For more details circle NED-23 L3 on enclosed inquiry slip

SAFETY STEP LADDER casters retract automatically



Safety step ladder is equipped with casters for easy movement from place to place, but it is so designed that when the ladder is stepped upon the casters retract and unit is solidly grounded on rubber-tipped legs. When weight is removed, casters automatically re-engage ready for moving. Unit is available in two, three, four and six-step sizes, the two largest models being furnished with handrails. Frames are fabricated from aluminum-finished ¾-in. steel tubing, and steps are of reinforced expanded steel. A detachable wire mesh parts basket is optional equipment. Made by **Precision Equipment Co.**, Dept. NED-11, 3714 N. Milwaukee Ave., Chicago 41, Ill.

For more details circle NED-24 L3 on enclosed inquiry slip



For quickly and easily pulling bearings, bushings, and liners on electric motors

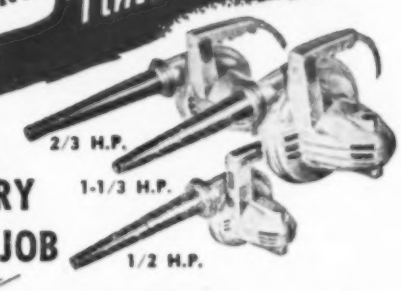
. . . use the Duff-Norton remote controlled "Lo-Hite" Hydraulic Jack with detached independent pump. The ram when closed is only 4½ inches high, yet can safely move 30 tons 2 inches in any direction. The independent pumping mechanism is connected to the jacking ram by an 8-foot flexible rubber hose. Safe, sturdy, precision-built for trouble-free service, the "Lo-Hite" is winning new users everywhere.

Write to the world's oldest and largest manufacturer of lifting jacks for Bulletin AD-3N, The Duff-Norton Mfg. Co., P. O. Box 1889, Pittsburgh 30, Pa. Canadian plant—Toronto 6, Ontario.

DUFF-NORTON JACKS
"Giving Industry a Lift Since 1883"

For more details circle NED-25 L3 on enclosed inquiry slip

IDEAL "Hand Type" CLEANERS — Cut Cleaning Time and Costs!



3 MODELS ...for EVERY CLEANING JOB

For easier, faster maintenance or production cleaning jobs — on machinery, stock bins, scrap pick up — there's an IDEAL "Hand-Type" Cleaner to meet your needs exactly — to save you money! Three great models, all built to rugged, real industrial standards. Get today's top cleaner value — get IDEAL!

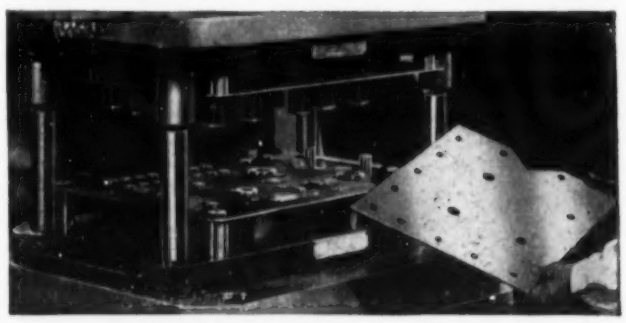
Sold Through Leading Distributors

TRY ONE FREE!

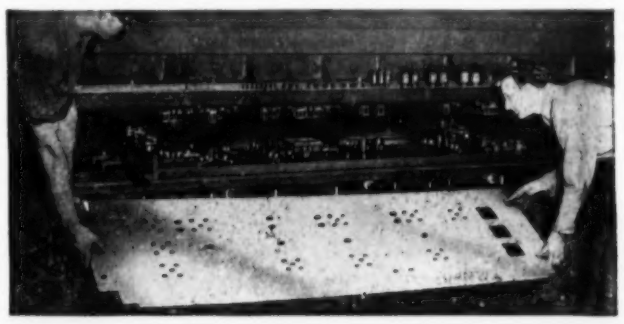
IDEAL INDUSTRIES, Inc.
1034 Park Avenue, Sycamore, Illinois
Please give us FREE DEMONSTRATION of the IDEAL "Hand-Type" Cleaner for our plant.
NAME
COMPANY
ADDRESS
CITY ZONE STATE

For more details circle NED-26 L3 on enclosed inquiry slip

New • Fast • Proven LOW COST METHODS for PERFORATING and NOTCHING SHEET METALS



Whistler *MAGNETIC* Dies at work in large inclinable press. Magnetized retainers hold the units. No bolting required. A fast, economical method in making up a punch and die set for short or long runs. All parts re-usable.



Whistler *ADJUSTABLE* Dies on perforating and notching job, using Tee slotted die set. With Whistler Adjustable Punch and Die units production starts within hours instead of weeks. Last minute job changes made quickly.

REDUCE DIE COSTS... All units and parts are interchangeable and used repeatedly in different arrangements. **INCREASE PRESS PRODUCTION**—*Down time is minutes as compared to hours for changeover.* For precision work in all types and sizes of presses. **START PRODUCTION AT ONCE.** Pierce materials up to ¼" thick mild steel. Standard sizes and shapes available up to 3 inches. Special sizes to order.

Here are the complete details with prices and application illustrations. Send for these catalogs. No obligation.

NAME
FIRM
ADDRESS
CITY ZONE STATE

S. B. WHISTLER & SONS, Inc.
Adjustable, Magnetic, Custom and Cam Dies for all Industry
750 Military Road Buffalo 23, New York

For more details circle NED-27 L3 on enclosed inquiry slip

STEEL

Every Kind

Our stocks of Certified Quality Steel are large and becoming more complete. Quick, dependable service is assured.

NEARBY STOCKS INCLUDE:

BARS—carbon & alloy, hot rolled & cold finished
STRUCTURALS—channels, angles, beams, etc.
PLATES—U, M. & sheared, Inland 4-Way Floor Plate
SHEETS—hot & cold rolled, many types & coatings
TUBING—seamless & welded, mechanical & boiler tubes
STAINLESS—Allegheny sheets, plates, bars, tubing, etc.
REINFORCING bars & access.
BABBITT bearing metal
MACHINERY & TOOLS for metal fabrication

RYERSON

Joseph T. Ryerson & Son, Inc. Plants: New York, Boston, Philadelphia, Detroit, Cincinnati, Cleveland, Pittsburgh, Buffalo, Chicago, Milwaukee, St. Louis, Los Angeles, San Francisco Spokane, Seattle

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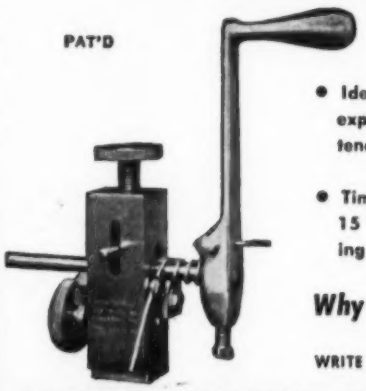
SPRINGS—

AT YOUR FINGERTIPS WITH A

BLANER HAND SPRING WINDER

- No other tools required
- Compression or extension
- Right or left hand
- Wide range capacity



- Ideal for tool rooms, experimental and maintenance departments
- Time tested — with over 15 years service to leading manufacturers

Why wait for springs?

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BLANER SPRING WINDER CO.

307 MUNROE FALLS AVE.
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FAST HEAT
CONTROLLED HEAT
EASY-TO-INSTALL HEAT
ECONOMICAL HEAT

Need heat for production or processing? Chromalox Electric Heaters are your quick and economical answer. Over 15,000 types, sizes and ratings to choose from to give working temperatures up to 1100°F. Temperatures controlled precisely by either manual or automatic thermostatic controls. No steam-lines, no boilers or expensive equipment to install!

18-37

WRITE FOR

Handbook "100 Ways to Apply Electric Heat." It suggests many applications for Chromalox Electric Heaters.

EDWIN L. WEIGAND CO., 7509 Thomas Blvd., Pittsburgh 8, Pa.

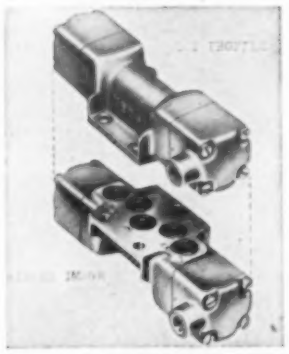
See other ad on pg. 69

CHROMALOX

ELECTRIC HEAT FOR MODERN INDUSTRY

▲ For more details circle NED-30 L3 on enclosed inquiry slip ▲

MANIFOLD MOUNT VALVES
eliminate pipe or hose connections



Two, three and four way Versa valves in 1/8, 1/4, 3/8 or 1/2-in. NPT sizes are now available in manifold mount design. This both eliminates pipe and hose connections and conserves mounting space. O-ring seals are used between valve and mounting surface which is drilled to correspond with valve porting. Normal operating pressures range from 0 to 200 psig. Hand, foot, cam, pilot and solenoid actuating devices are among those which can be used with the new mounting. Made by **Versa Products Co.**, 251 Scholes St., Brooklyn, N. Y.

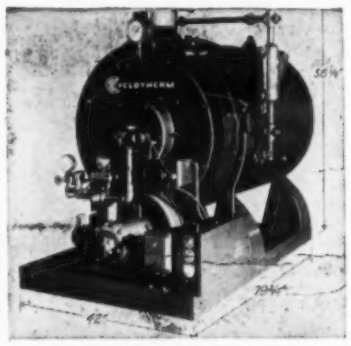
▲ For more details circle NED-31 L3 on enclosed inquiry slip ▲

ICE CONTROL SPREADER
distributes salt, sand or cinders

Fast and efficient ice removal and ice proofing of industrial areas is made possible by model SC-52 truck-pulled spreader. It has a tow-hitch which quickly attaches to any truck, and spreads a fine or heavy coating of salt, sand, cinders, calcium chloride, chips, and other skid-proofing materials. Unit covers a spread of 360 degrees under the truck wheels. Made by **Baughman Mfg. Co.**, 174 Arch St., Jerseyville, Ill.

▲ For more details circle NED-32 L3 on enclosed inquiry slip ▲

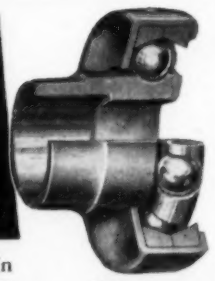
FIRETUBE BOILER
50-hp unit is compact



Requiring an area of only 20 sq ft and with a height of 4 ft 8 in., model C1725 packaged firetube boiler unit produces 50 hp and can be used without foundations. Weight is 3550 lb. Unit can be mounted wherever water, fuel and electricity are available and is useful where floor space is limited. Multiple installations can be made if desired. Made by **United States Radiator Corp.**, Cyclotherm Div., Dept. NED, Oswego, N. Y.

▲ For more details circle NED-33 L3 on enclosed inquiry slip ▲

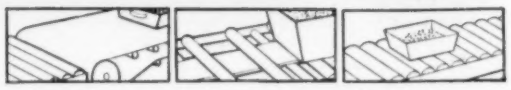
SOMETHING *New*
. . . in a bearing for conveyor rolls.


X-Series Bearing Assembly

Write for folder, describing in detail, this important new Logan development for conveyor rolls. This is a low-friction, extra quiet bearing, known as X-Series. Semi-precision construction yet virtually the same price as ordinary conveyor roll bearings. Note: 33% less grade required on gravity lines. Write for details.

The most important bearing development for conveyor rolls in two decades.

DEVELOPED BY *Logan*



For Belt Conveyors — For Live Roll Conveyors — For Roller Conveyors

LOGAN CO., 215 CABEL ST., LOUISVILLE, KY.

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BARBER COLMAN

Impressor

for quick, on-the-spot hardness testing of non-ferrous metals and plastics

Simple to operate . . . gives an instant, dependable measure of hardness. Operates on principle of forcing a spring-loaded indenter into the surface with the amount of penetration registering on a dial indicator. Can be used in any position . . . tamperproof . . . compact . . . rugged, yet weighs only 12 oz. Thousands used by industry.

Write today for complete details.

BARBER-COLMAN COMPANY, Dept. K, 1215 Rock St., ROCKFORD, Illinois

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NUMBERALL
CUTS THE COST OF STAMPING NUMBERS!

ROTARY STEEL STAMPS

Single Wheel

3 Rotary Stamps do away with 40 single Hand Stamps. Changes of characters are quickly made merely by rotating the Type wheel.

FIGURE ROTARY STAMP
1 2 3 4 5 6 7 8 9 0 X —
(all on one wheel)
furnished in leatherette case.

LETTER ROTARY STAMPS
A B C D E F G H I J K L M &
(on wheel of one stamp)
N O P Q R S T U V W X Y Z -
(on wheel of other stamp)

Size	Figure Stamp One Shank One Wheel	Letter Stamps Two Shanks Two Wheels	Letter and Figure Set Three Shanks Three Wheels
1/16	$8.00	$24.00	$32.00
3/32	8.00	24.00	32.00
1/8	8.00	24.00	32.00
5/32	8.00	24.00	32.00
3/16	8.00	24.00	32.00
1/4"	10.00	30.00	40.00
5/16	14.00	42.00	56.00
3/8	16.00	48.00	64.00

NUMBERALL STAMP & TOOL CO.

DEPT. NED, HUGUENOT PARK, STATEN ISLAND 12, N. Y.

▲ For more details circle NED-36 L3 on enclosed inquiry slip ▲

Circo Vapor Degreasers use 30% less solvent

CIRCO
CROSS ROD DEGREASER

New, modern Circo vapor degreasers — whether large or small — are engineered to save on solvent consumption. Construction features like balanced condensing coils, leak-proof pumps and dual vapor-level control are today saving companies 30% and often more in solvent use. Circo degreasers perform faster, save precious man-hours through engineering designs developed through 30 years experience in vapor degreasing.

Circo Introduces Ultrasonic Cleaning

Write for details on the most modern, talked about metal cleaning development of the century—the Circosonic degreaser that cleans small metal parts by the power of sound.

Send for Circo's comprehensive 32-page Manual on Vapor Degreasing. No Obligation.

SINCE CIRCO 1923

EQUIPMENT COMPANY

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PER-SOLV (Perchlorethylene) CIRCO-SOLV (Trichlorethylene)
Vapor Degreasers • Metal Parts Washers • Dryers • Solvent Recovery Stills

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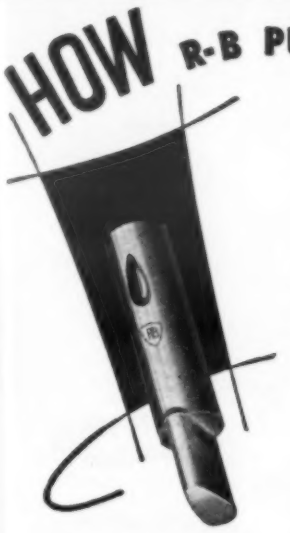
HOW R-B PUNCHES OPERATE



R-B standardized punches and die buttons are inserted in their retainers with a simple push and a twist.

Punches and die buttons are instantly removed by inserting a tanged tool in retainer hole to release the locking ball.

Each R-B retainer is equipped with a spring loaded locking ball which engages the recessed portion of standard and special R-B punches and die buttons. Locked punches and die buttons are always accurately aligned—no additional keying is required.

Use R-B Engineering Service for Your Tough Piercing Problems.

RICHARD BROTHERS PUNCH DIVISION
ALLIED PRODUCTS CORPORATION
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Also Produced in OTHER ALLIED PLANTS
SPECIAL COLD FORGED PARTS • STANDARD CAP SCREWS
PRECISION GROUND PARTS • SHEET METAL DIES MADE OF FERROUS ALLOYS, ZINC ALLOYS OR PLASTICS

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Now...for the first time in a LIGHT-HEAVYWEIGHT

SPEEDS from 50—4500 S.F.M.

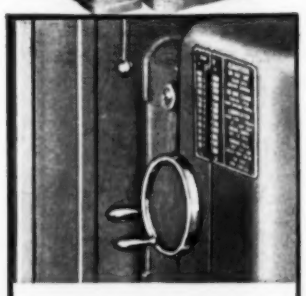
with the new WALKER-TURNER 16" BAND SAW

You just dial the exact speed you want for a specific job—while the machine is running.

Newest of the Walker-Turner *light-heavyweights*, this 16" Band Saw features a Variable Speed Drive. Handles hundreds of cutting jobs—from tool steel to plastics—requiring varying rates of blade speeds. Infinitely variable speeds—from 50-4500 S.F.M.—are controlled by a hand wheel. No time "lost" changing belts or pulleys. Blade speeds are shown on a graduated scale.

In addition to the new Variable Speed Drive this new band saw features improved saw guides, quick change tires and an all new base. It's a versatile precision tool designed to set new performance records in your plant. Put it to work . . . and save.

For complete information on the new 16" Band Saw and other cost-cutting *light-heavyweights* call in your local factory-trained Walker-Turner distributor, or mail the coupon.



Quick-change Variable Speed Drive
A turn of the hand wheel gives the exact speed desired for any cutting job—from 50-4500 S.F.M.—while the saw is running. No "lost" time changing belts or pulleys.

SOLD THROUGH *FACTORY-TRAINED* INDUSTRIAL DISTRIBUTORS

WALKER-TURNER
• DIVISION •
KEARNEY AND TRECKER CORPORATION
PLAINFIELD, N. J.

DRILL PRESSES—Hand and Power Feed • Radial Drills • Wood and Metal Cutting BAND SAWS • TILTING ARBOR SAWS • RADIAL SAWS • JIG SAWS • LATHES • SPINDLE SHAPERS • JOINTERS BELT AND DISC SURFACERS • FLEXIBLE SHAFT MACHINES

Use this space
To send for full details and specifications.
Walker-Turner Division, Kearney & Trecker Corp.
Dept. N-11, Plainfield, N. J.

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GAS-FIRED UNIT HEATERS
with capacities up to 160,000 Btu

Eight models in line of gas-fired unit heaters for automatic direct-fired heating of industrial areas have capacities from 20,000 to 160,000 Btu per hour. They can be used with natural, manufactured, mixed or liquefied petroleum gases and are equipped with motor driven fans. Louvers are individually adjustable. An automatic safety pilot shuts off gas supply if the pilot burner goes out. Made by **Grinnell Co.**, 277 W. Exchange St., Providence 1, R. I.

▲ For more details circle NED-40 L3 on enclosed inquiry slip ▲

HOT PLATE
7-in. round model

Stepless temperature control from room temperature to 270° C (700° F) is provided by the thermostat on the 7-in. round model 2500 laboratory and industrial hot plate. Surface plate temperature varies less than 3° at any point over the full heating range. Cast aluminum top plate reaches top heat in 25 minutes. A neon light indicates on-off action of the heating element. Two sockets accommodate standard dovetail clamp and rod for support of apparatus above the plate and for support of the hot plate itself. Made by **Thermo Electric Mfg. Co.**, 484 Huff St., Dubuque, Iowa.

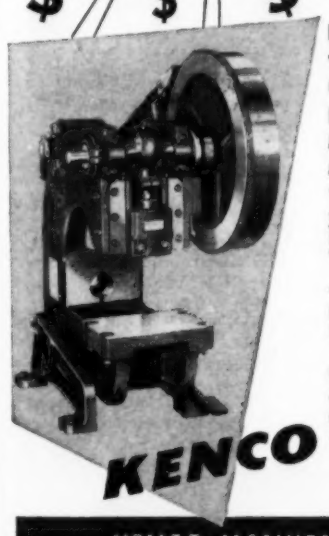
▲ For more details circle NED-41 L3 on enclosed inquiry slip ▲

DRILL STAND
vertical unit uses 1/4-in. drill

Usable with the Porter-Cable model 107 portable electric drill, this vertical stand allows operator to apply steady pressure with close control. It weighs 6 lb, and has a firm flat base with column - mounted adjustable carrier. Drill can be quickly removed or attached without tools. Clearance between drill and base is 7 in., between center line of column and bit 5 3/8 in., and the stand is 21 in. high. Made by **Porter-Cable Machine Co.**, 29 Exchange St., Syracuse 8, N. Y.

▲ For more details circle NED-42 L3 on enclosed inquiry slip ▲

THE PRESS THAT PUNCHES OUT PROFITS



KENCO 4 and 5 TON PUNCH PRESSES are built with precision and ruggedness found only in large presses. *They actually outperform and out-produce presses costing four times as much.* Kenco is "the only small press without the headaches."

And the Kenco 4-in-1 easily converts into a standard die space press, long die space, half and horn press...Four presses in one.

Let us prove you'll punch out big profits with Kencos . . . There are over 250 Kenco dealers to serve you. Write for details and name of nearest supplier.

Folder on Request

KENCO

KENCO MANUFACTURING CO.
5211 Anaheim-Telegraph Rd., Los Angeles 22, Calif.

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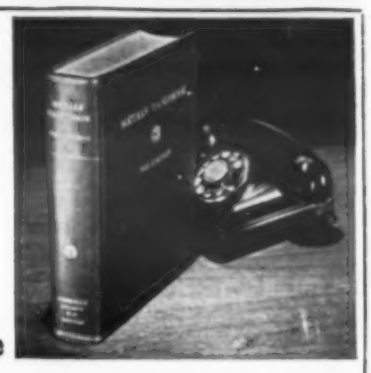
The Metals Handbook



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1752 Illustrations
1057 Tables
803 Articles
1,620,000 Words
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Here is a book without a competitor . . . a book 25 years in the making. The current, 7th edition of the Metals Handbook was compiled and written by 68 committees of the American Society for Metals; more than 500 metals engineers were hand picked by the Society as the top experts, the men best qualified to write the most authoritative possible reference book on metals, metal properties, fabrication and uses. The book they wrote is the Metals Handbook. It is divided into 37 principal sections, and contains 803 separate articles and data sheets on metals, metal shaping, forming, heat treating, welding, machining, foundry work, cleaning, finishing, testing, inspection, control and research techniques. All metals, all processes are included. The 64-page index and 4-page section on how to use the book make it easy for any reader to find what he wants. Over 40,000 copies of this edition are now in use by engineers, metallurgists, designers, production men, executives, purchasing agents and others. Order your copy today by returning the coupon below. The price is $15.00.

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Rush me a copy of the Metals Handbook.

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City _____ Zone _____ State _____

☐ $15.00 Enclosed ☐ Bill me.

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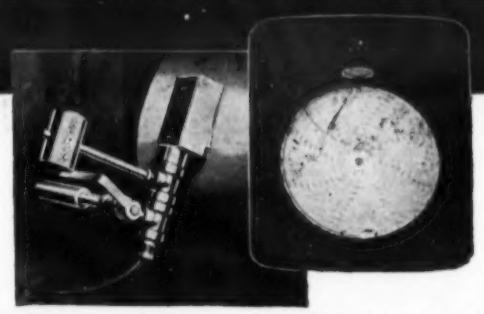
NOW! CONTINUOUS MEASUREMENT OF ROLL SURFACE TEMPERATURES



SPECIFICALLY DEVELOPED for calender rolls, dryer rolls and other moving surfaces used in processing . . . plastics, rubber, textiles, metals, paper, food. Saves steam, reduces waste, improves product quality.

The system consists of an *entirely new type* of measuring head...plus a Dynalog *Electronic Recorder or Controller. Minimizes ambient or radiant temperature errors. No scoring of the roll. Operating range: −40°F to +350°F, higher under special conditions. Write for Bulletin 405.

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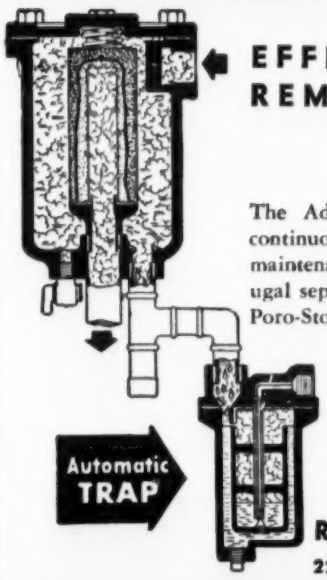
Poro-Stone Filtration FOR COMPRESSED AIR



EFFICIENTLY REMOVES:

OIL, WATER PIPE SCALE

The Adams *Poro-Stone* Filter gives continuous service without attention or maintenance expense. Efficient centrifugal separation *plus* diffusion through Poro-Stone, removes contamination completely without pressure loss. Automatic Trap eliminates attention and assures continuous and efficient filter operation. Write for complete data—Bulletin 177.

R. P. ADAMS CO., INC.
227 E. Park Dr., Buffalo 17, N. Y.

ADAMS *Poro-Stone* AIR FILTER

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What do you know about the *Moly-sulfide* LUBRICANT?
A LITTLE DOES A LOT

You may have heard about a highly successful solid-film lubricant which is giving remarkable results in the shop and in the field.

In one 40-page booklet we have collected 154 detailed case-histories describing how difficult lubrication problems have been overcome by molybdenum sulfide. If you wish to be up to date about this solid-film lubricant, write for a free copy now.

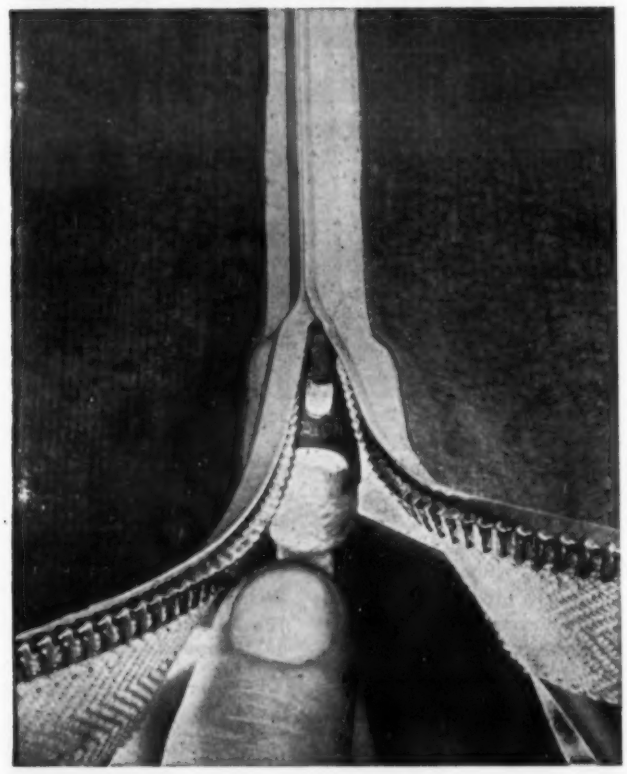
THE LUBRICANT OF MANY USES

Moly-sulfide
A LITTLE DOES A LOT
SEND FOR THIS FREE BOOKLET TODAY

Climax Molybdenum Company
500 Fifth Avenue · New York City 36 · N.Y.

For more details circle NED-47 L3 on enclosed inquiry slip

B.F. Goodrich



New B. F. Goodrich seal is watertight, airtight, ...zips open fast

A NEW KIND OF SEAL keeps gases, liquids, dirt *in* or *out*. Here's how it works:

Rubber lips are molded with hairline precision so that they fit together tightly. They press together even without pressure to seal effectively. And with pressure against the lips, the seal actually tightens. The rubber seal is applied to an ordinary zipper which zips open or shut in a hurry.

The B. F. Goodrich Sealing Zipper is so flexible it goes around curves and odd shapes where clamps won't work. Can be made of compounds to resist weather, oils, gasoline, chemicals. Can be sewn or cemented to fabric, metal, wood, glass. The rubber can be made to match any color.

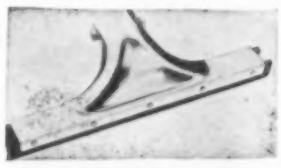
It's ideal for any use that combines a need for an airtight, watertight seal with a need for quick opening. The B. F. Goodrich Company, Zipper Division, Akron, Ohio.

Send Now For Free Folder

Gives design advantages, successful case histories, suggested uses. Shows various zipper styles. Write to **The B. F. Goodrich Company, Dept. A-98, Akron, Ohio.**

For more details circle NED-48 L3 on enclosed inquiry slip

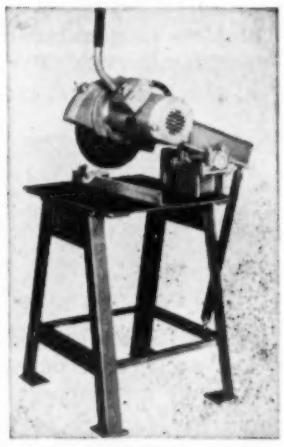
PICKUP SQUEEGEE
draws up liquids in one stroke



True one-stroke liquid pick-up is reported for this squeegee nozzle usable with commercial and industrial vacuum cleaners. Two neoprene blades at front and three in back gather liquids on both forward and back strokes. Blades are 15 in. long and can be easily removed from polished cast aluminum nozzle. This nozzle is also offered with fiber shoes for use on concrete or abrasive floors; horse hair brushes for floor or carpet use; and felt or rubberized fabric shoes for use on polished floors or surfaces which must be protected. Made by **Breuer Electric Mfg. Co.,** 5106A N. Ravenswood Ave., Chicago 40, Ill.

For more details circle NED-49 L3 on enclosed inquiry slip

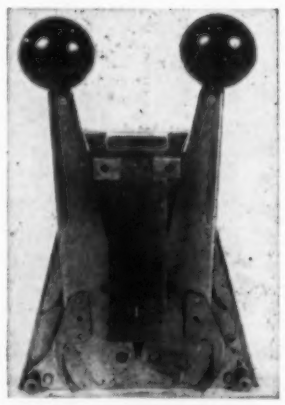
CUTOFF MACHINE
uses abrasive wheel or steel saw



Direct drive of the model M-35 cutoff machine permits the 3½-hp gear-in-head motor to deliver full power to the cutting edge for fast cutting speeds and long wheel life. Machine uses a 12-in. abrasive wheel for cutting ferrous metals and a 12-in. steel saw blade for nonferrous metals. Ferrous capacity is 1½-in. solids, 2½-in. OD pipe and 2½-in. structurals, while nonferrous maximums are 2½-in. solids and 3-in. tubing and extrusions. Made by **Stone Machinery Co.,** 633 Fayette St., Manlius N. Y.

For more details circle NED-50 L3 on enclosed inquiry slip

STAPLING MACHINE
for corrugated or fiber cartons



Filled corrugated or fiberboard cartons can be stapled from the outside with the Actuated Anvil stapling machine. Variable anvil size adjusts depth of the staple clinch and assures closure without damage to contents. Variable tightness of clinch is achieved by graduated length of driving blade. Large industrial type staples have a 1⅜-in. crown and ⅝-in. leg. Made by **Container Stapling Corp.,** 310 N. Park Ave., Herrin, Ill.

For more details circle NED-51 L3 on enclosed inquiry slip

YOU'LL GET
years and years of
100% ACCURATE
performance...

THOUSANDS OF **REDINGTON COUNTERS,** many put into service 20, 30, and 40 years ago, are still in continuous use...*and still functioning perfectly!*

REDINGTONS are widely used on
• PUNCH PRESSES • SHEETERS • DRILL PRESSES • CONVEYOR LINES • PACKAGING MACHINES BENCH OPERATIONS
and wherever a positive stroke Counter can be used. Sturdy, reliable REDINGTONS have been standard equipment for years on such well-known printing presses as *C&P, Kluge, Kelly, Banthin, Miehle, etc.*

EQUIP ALL YOUR MACHINES NOW WITH THE UNIT YOU CAN COUNT ON!

Send today for this free illustrated catalog NED, showing all models, applications, prices and quantity discounts.

CHECK THESE LONG-LIFE, HIGH-EFFICIENCY FEATURES:
1) Easy-to-read white on black numerals integral with double-injected plastic wheels—can't wear off! 2) Handsome wear-resistant black crackle finish, 3) Handy reset knob, 4) All-purpose mounting bracket, 5) ALL WORKING PARTS OF STEEL.
Every REDINGTON is fully guaranteed!

F.B. REDINGTON CO. 101 S. SANGAMON ST., CHICAGO 7, ILL.

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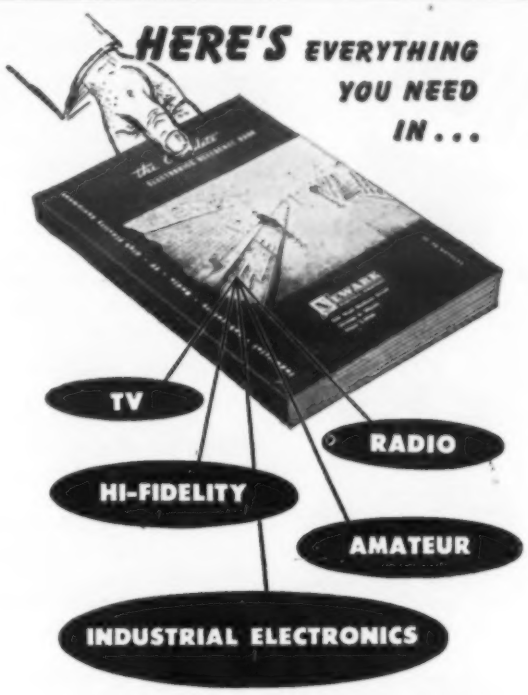

Send today for NEWARK'S NEW CATALOG NO. 56
Department N-11

NEWARK ELECTRIC COMPANY
223 W. Madison St., Chicago 6, Ill.

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NEW general purpose GRINDER

fits in your hand like a flashlight!

for use with rotary files, cutters and midget mills and for die grinding

Compact, lightweight and unusually easy to handle, the new Buckeye spindle type grinders will replace larger, heavier tools on many grinding applications. One-piece shaft design eliminates tang drive, saves replacement of expensive wearing parts. Capacity: 1¾" organic wheel. Lever or Lock Button throttle. Weight 1¾ lbs. Length 10 inches. Write for free Air Tools Catalog.

Buckeye Tools CORPORATION
DIVISION 34 · DAYTON 1, OHIO

producers of the world's first successful rotary air tools

For more details circle NED-54 L3 on enclosed inquiry slip

what are wiping cloths doing in this ad?

Chances are you don't make wiping cloths. But they are pictured here just as an example of the many unusual materials that can be cut from rolls with a Beck Automatic Roll Sheet Cutter. So, if you're working with any material in rolls that you find "difficult" to cut and handle, write us about it. In return you'll receive complete details on how a sheet cutter will give you smooth, high production cutting — with savings that soon pay back the machine's modest cost.

SEND NOW FOR THIS CATALOG.

CHARLES BECK MACHINE CORPORATION
409 N. 13th Street Philadelphia 8, Pa.

For more details circle NED-55 L3 on enclosed inquiry slip

LOOK OVER THE BIG DRAKE LINE!

Check all the possibilities offered by this remarkably complete and flexible line—already familiar to most engineers and production men for precision manufacture—low cost—proven performance. The large assortment of popular DRAKE Assemblies shown on this new display board (on view at leading jobbers' everywhere) should give you many a valuable idea for your present and projected equipment. See it at once!

For full data write for Catalog N

SOCKET & JEWEL LIGHT ASSEMBLIES

DRAKE MANUFACTURING CO.
1711 W. HUBBARD STREET • CHICAGO 22

▲ For more details circle NED-56 L3 on enclosed inquiry slip ▲

FREE! New Safety Information 4-out-of-5 Plants Need!

IF YOU BURN oil, gas, powdered coal or other fuel, for power, processing or heating, the chances are 4-out-of-5 that you do not have complete safeguards against burner flame-failure explosions.

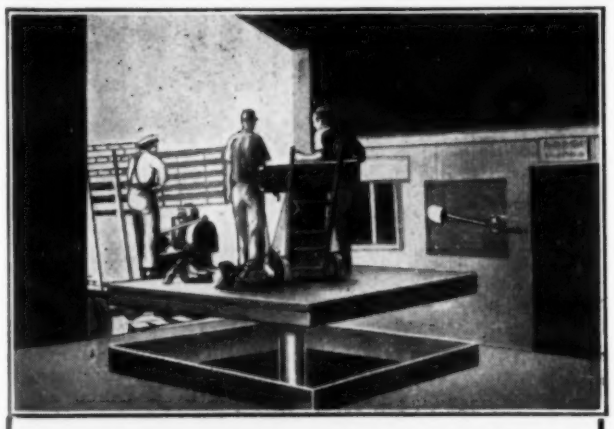
Why take chances . . . ? This new booklet gives you all the information you need to prevent flame-failure explosions. With it you can spot burner explosion hazards in your plant — identify obsolete or inadequate "protective" devices — determine your needs for the most modern safeguard equipment. Get your copy, free! Please give your company name and title.

WRITE:

COMBUSTION CONTROL CORPORATION
Dept. DB-11, 718 Beacon Street
Boston 15, Mass.

fireye

▲ For more details circle NED-57 L3 on enclosed inquiry slip ▲



Comwel Platform Lifts

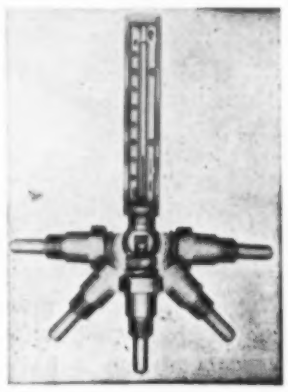
Speed Receiving and Delivery. Provide greater safety in handling heavy machinery, crates, barrels, castings, etc. Loads quickly raised from floor level to truck or dock height. Retracting safety skirt optional.

The COMWEL PLATFORM LIFT pays for itself many times over in saving time and manpower. Standard Model has capacity up to 10 tons. Other capacities available. Write or wire.

COMWEL COMPANY
2899 Norton Ave. Lynwood, Calif.

▲ For more details circle NED-58 L3 on enclosed inquiry slip ▲

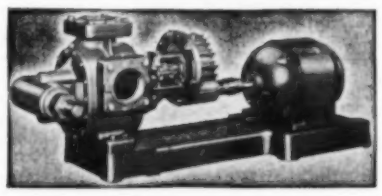
INDUSTRIAL THERMOMETER can be positioned at any angle



Positioning at any angle through a 180-degree arc, back or front, left or right, is possible with this 5-in. case industrial thermometer. Flexible connection minimizes danger of breakage due to shock or vibration. Instrument can be supplied with all standard fittings and in all standard ranges up to 750° F. Made by **Weksler Thermometer Corp.**, 49a W. 32nd St., New York 1, N. Y.

▲ For more details circle NED-59 L3 on enclosed inquiry slip ▲

MOTOR DRIVEN PUMPS capacities from 70 to 226 gpm



Built with a range of capacities from 70 to 226 gpm at 60 psi are 3600 series MAHBRV No. 5 and 6 motor driven single pump units. Each size has three interchangeable gear ratios, antifriction bearings throughout the gear reduction, bedplate for mounting pump and motor and design for indoor and outdoor operation without pumphouse. They are intended for general purpose pumping of thick or thin liquids. A flexible coupling connects gear reduction and motor. Made by **Geo. D. Roper Corp.**, 615 Blackhawk Park Ave., Rockford, Ill.

▲ For more details circle NED-60 L3 on enclosed inquiry slip ▲

PORTABLE AIR HEATER for 100,000 to 385,000 Btu delivery

A Briggs and Stratton model 6 engine powers this redesigned standard model Herman Nelson portable air heater, a self-contained gasoline fired unit practical where electricity is not available. Use of this engine permits simpler arrangement of components at air intake end of heater. Fuel metering valve can reduce capacity of unit from maximum of 385,000 Btu to low of 100,000 Btu per hour. This feature affords fuel savings at lower capacities. Made by **American Air Filter Co.**, Dept. ND, 1824 Third Ave., Moline, Ill.

▲ For more details circle NED-61 L3 on enclosed inquiry slip ▲

LOOKING FOR Stainless Steel Tubing? Tubular Fabricated Parts?

You can be sure of good deliveries and quality craftsmanship when you specify Bishop Stainless Steel tubing.

Bishop, a pioneer in cold drawing stainless steel tubing, have been precision craftsmen of precious metals since 1842.

And Bishop is the only redraw mill to specialize in fabricating stainless steel tubular parts. This means savings in time and money because "under one roof" drawing and fabrication facilities mean savings in handling costs and transportation charges.

On your next stainless steel tubing or tubular fabricated parts requirements, why not try Bishop?

J. BISHOP & CO. *Platinum Works*
Stainless Steel Division, Malvern, Penna.

▲ For more details circle NED-62 L3 on enclosed inquiry slip ▲

hand pushed TROLLEYS

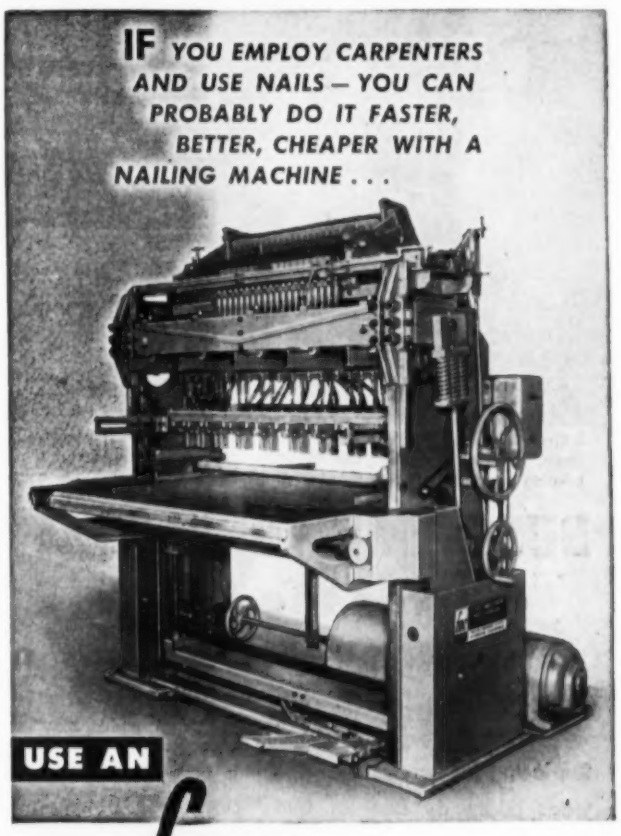
Webb Hand Pushed Trolleys are sturdily built for long life and minimum maintenance. Hardened steel wheels equipped with retainer type ball bearings assure long wearing properties and ease of operation. Triple labyrinth seals keep lubricant in and dirt out. Side guide rollers effectively eliminate binding and excessive wear, especially when moving loads around curves. For simple, inexpensive and easy handling of materials, use Webb Hand Pushed Trolleys.

P-2530
4" to 10" I-Beam; ½ Ton.

FOR BULLETIN AND PRICES WRITE TO:

JERVIS B. WEBB COMPANY
8921 ALPINE AVE. DETROIT 4, MICH.
OFFICES IN PRINCIPAL CITIES
CONVEYOR ENGINEERS AND MANUFACTURERS

▲ For more details circle NED-63 L3 on enclosed inquiry slip ▲



fmc ALL PURPOSE INDUSTRIAL NAILER

THIS MECHANICAL NAILING MACHINE HANDLES EVERY PRODUCTION ITEM FROM BED FRAMES TO PALLETS AND GRAIN DOORS

You can cut nailing costs with mass production techniques. Modern nailing machine design eliminates the need for large production runs. Versatile operation permits even a small run to be handled with pay-for-itself economy. We can adapt a nailing machine to suit your product.

A TIME-SAVING DEVICE THAT WILL PAY DIVIDENDS THRU GREATER PRODUCTION

Driving multiple nails per stroke in a variety of nailing patterns outclasses any hammer-in-hand production. Uniform quality eliminates rejects – increases output.

HOW THE MACHINE IS MADE

Welded steel construction provides lasting hard use. Year after year performance with minimum maintenance.

SIZES AVAILABLE

Standard models select and drive up to 24 nails per stroke. Available in 48", 66" or 80" widths. Special custom adaptations are available on order.

HERE'S WHERE IT IS NOW APPLIED

Successfully adapted to nail pallets, shipping crates, redwood outdoor lawn furniture, cooling tower panels, bed spring frames, grain doors and many other wood products.

Available FROM fmc FOOD MACHINERY AND CHEMICAL CORPORATION

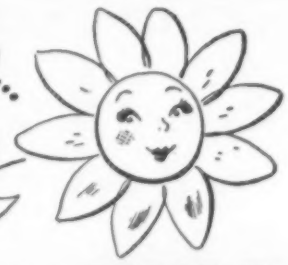
TRADE MARK NM789

FOOD MACHINERY AND CHEMICAL CORPORATION
PACKING EQUIPMENT DIVISION, RIVERSIDE, CALIFORNIA

WRITE FOR FREE LITERATURE!

▲ For more details circle NED-64 L3 on enclosed inquiry slip ▲

Be fresh... stay fresh



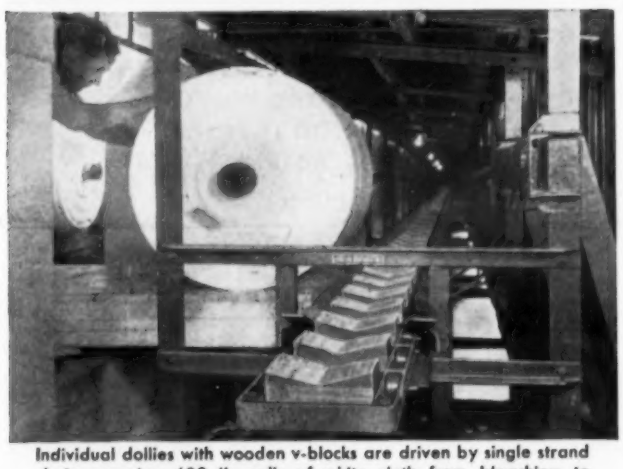
wear a **DUPOR No. 20**
Water-Cooled Respirator

Double sponges dipped in water before wearing provide cool breathing even under hot, smoky conditions. Recommended for use of workers in paint shops, foundries, steel mills, oil refineries, chemists, firemen, etc. Face mask is of rubber, equipped with DUPOR "controlled breathing" valves. Wearer has a panorama view with no blind spots. Glasses or goggles can be worn with unit.

Sample sent
$2.50 pp

H. S. COVER
South Bend, Ind.

▲ For more details circle NED-65 L3 on enclosed inquiry slip ▲



Individual dollies with wooden v-blocks are driven by single strand chain, carrying 400 lb. rolls of white cloth from bleaching to printing operations in different buildings.

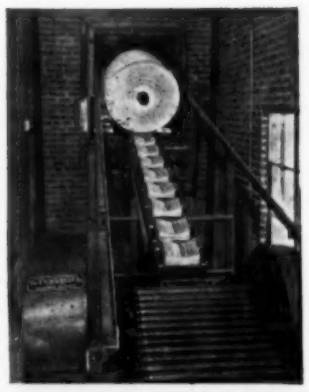
BUSCHMAN CONVEYORS
deliver the goods
between buildings for Southern Bleachery

Replacing costly trucking, this Buschman Conveyor provides a steady flow of bulky cloth rolls between buildings at the Southern Bleachery and Print Works, Inc., Taylors, S.C. The design and trouble-free operation of the conveyor prove the skill and experience of Buschman Engineers in economical solution of widely varied handling problems.

Put *your* handling problem up to an experienced organization for satisfactory solution. Write today for literature showing "standard" and "engineered" conveyors and machinery for all industries.

Representatives in principal cities

PRODUCE MORE ... FOR LESS
Buschman Conveyors



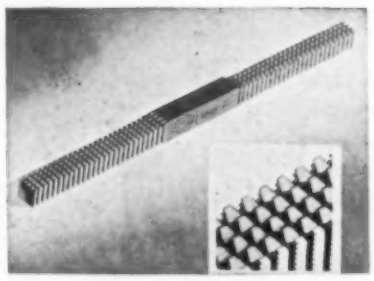
Buschman Engineered design permits changes in vertical elevation and horizontal direction.

THE E. W. BUSCHMAN COMPANY
Spring Grove at Winton Place,
Cincinnati 32, Ohio

Canadian Licensee: J. A. McKechnie Ltd., Toronto 13, Canada

▲ For more details circle NED-66 L3 on enclosed inquiry slip ▲

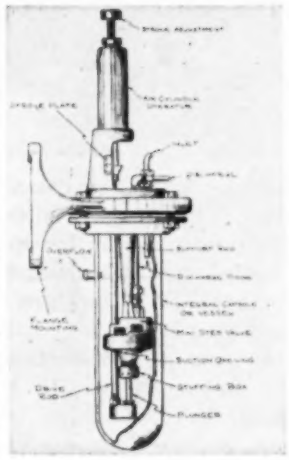
THREAD RESTORING TOOL
does not reduce diameters



Damaged or deformed external threads can be returned to original condition without reducing root and outside diameters by the Nu-Trix thread restoring tool. It is used like a file, a few quick passes across the damaged threads removing burrs and deformed metal. Restorer is hardened steel and is 8½ in. long and 7/16-in. square. It is available in National Coarse or National Fine threads with eight thread sizes on each tool. Made by **Reiff & Nestor Co.**, Lykens 2, Pa.

▲ For more details circle NED-67 L3 on enclosed inquiry slip ▲

CONTROLLED VOLUME PUMPS
for submerged operation



Entire liquid end assembly of controlled volume pump is submerged in a sump with only the driver and discharge piping exposed. Designed for handling dangerous fluids, the submerged pumping cylinder eliminates problems of stuffing box leakage. Capacity of pump, a variation of the miniPump, is up to 3200 milliliters per hour at pressures up to 1000 psi. Made by **Milton Roy Co.**, 1304 E. Mermaid Lane, Philadelphia 18, Pa.

▲ For more details circle NED-68 L3 on enclosed inquiry slip ▲

ANGULAR CUTTER
for flush trimming bolts

Hydraulic angular bolt cutter is applicable for flush trimming bolts to the nut or for other metal trimming jobs where a close cut is desired. Guillotine cutter has a capacity for trimming ⅞-in. mild steel bolts. It can be obtained with cut-back jaws for use in splitting nuts during wrecking operations or for trimming wire mesh. Power is supplied by a portable hydraulic pump and actuation is by a manual lever. Cutting head weight is 23 lb. Made by **Manco Mfg. Co.**, Washington St., Bradley, Ill.

▲ For more details circle NED-69 L3 on enclosed inquiry slip ▲

PLASTIC SKIN COATINGS
END RUST DAMAGE

Aeroil

PLAST-O-DIP

Protective preservation of all precision machined metal surfaces and parts is achieved in minutes—lasts for years with Aeroil Plast-O-Dip Tanks. Stop costly rust damage this easy way. Tank sizes range from 1 pint to 100 gallons. Mail the coupon below and put an end to storage rust problems.

Get Positive Protection NOW

Aeroil Products Company, Inc.
25 Wesley Street
South Hackensack, N. J.

Please rush full free information on Aeroil Plast-O-Dip Tanks to:

Name .....
Company ..... Title .....
Address .....
City ..... State .....

▲ For more details circle NED-70 L3 on enclosed inquiry slip ▲

S-A Winches
Hand and Motor Operated--
Capacities 500-3000 Lbs.

Lifting and pulling can be done faster, more safely, with S-A Winches. They quickly pay for themselves in manhours saved. Available for floor or wall mounting. Reversible motors aid in hoisting. Most models can also be used as a capstan for car pulling. Unusually compact.

Gives One Man the "Muscles" to Lift-Pull Heavy Loads

MAIL COUPON for BULLETIN

STEPHENS-ADAMSON MFG. CO.
Standard Products Division
12 Ridgeway Avenue, Aurora, Ill.
Please send Bulletin 853 on S-A Hand and Motor Winches.
Name.....
Company.....
Street.....
City.....Zone...State.....

▲ For more details circle NED-71 L3 on enclosed inquiry slip ▲

Over 85% of the torque wrenches used in industry are
STURTEVANT TORQUE WRENCHES
Read by Sight, Sound or Feel

- Permanently Accurate
- Practically Indestructible
- Faster—Easier to use
- Automatic Release
- All Capacities

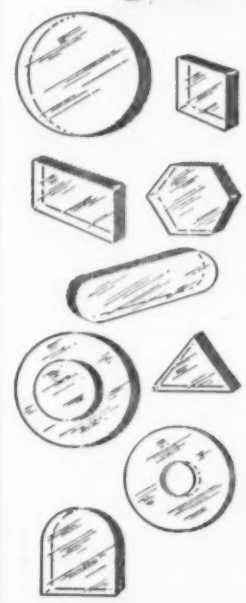
in inch ounces ...inch pounds ...foot pounds
(All sizes from 0-6000 ft. lbs.)

Every manufacturer, design and production man should have this valuable data. Sent upon request.

P.A. STURTEVANT CO.
ADDISON QUALITY ILLINOIS

▲ For more details circle NED-72 L3 on enclosed inquiry slip ▲

Call **SWIFT** *for* **SIGHT GLASSES**



precision-ground in perfectly true circles

Let us supply you with Perfectly True Circles precision-ground from heat-resistant Pyrex Polished Plate Glass . . . used by major chemical companies from coast to coast. Resist clouding, pitting, chemicals (except HF and strong hot caustic solutions).

We can deliver immediately specially cut round, square, rectangle or odd-shaped Sight Glasses in 8 thicknesses (⅛" to 1"), sizes up to 24" x 60". Write, wire or phone for quotation. Ask for Sight Glass Bulletin.

SWIFT *Glass Division*
SWIFT LUBRICATOR COMPANY, INC., ELMIRA, N.Y.
330 Tenth St., San Francisco 3 • 140 Boylston St., Boston 16
807 Mateo St., Los Angeles.

▲ For more details circle NED-73 L3 on enclosed inquiry slip ▲

S-A Car Pullers

If you have your own switch track, you can profitably use an S-A Car Puller. No need to use a gang of men or wait for a switch engine. *One man can shift or spot up to six loaded cars under normal conditions.* Powerful capstan will also pull or lift other heavy loads at 45 feet per minute. *Mail coupon for Bulletin 1339.*

MAIL COUPON FOR FULL DATA

STEPHENS-ADAMSON MFG. CO.
Standard Products Division
12 RIDGEWAY AVE., AURORA, ILL.
Please send me Bulletin 1339 on S-A Car Pullers.
Name.....
Company.....
Address.....
City.....Zone....State.....

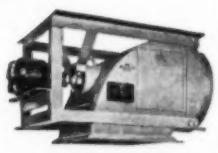
For more details circle **NED-79 L3** on enclosed inquiry slip

High Hats are out of date

now— it's the Homburg

High Chimneys, too, are out of date

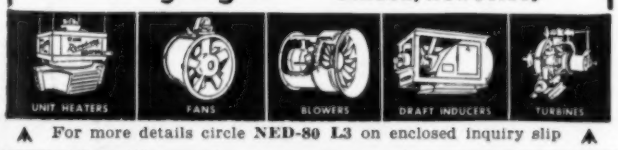
now— it's the WING DRAFT INDUCER



Why? Because your heating plant can have positive, adequate, uniform draft without the need for tall, unsightly, expensive stacks. Unlike variable chimney draft, the Wing Draft Inducer gives perfect motorized draft in any weather. It cuts fuel costs by giving higher CO_2's. Smoking is reduced or eliminated. The capacity of your boiler plant is increased.

Write for a copy of Bulletin I-52

L. J. Wing Mfg. Co. 165 Vreeland Mills Road Linden, New Jersey



For more details circle **NED-80 L3** on enclosed inquiry slip

HEAVY DUTY MILL TYPE CYLINDERS

For rough and tough jobs.. ..Air and Hydraulic

Lindberg Mill Type Cylinders are heavy, tough cylinders . . with plenty of guts built in. They'll handle the meanest and most demanding job you can think of, and they'll perform dependably under the most adverse operating conditions.

Lindberg also builds a standard catalog line of heavy duty air and hydraulic cylinders . . up to 12". Hydraulic Cylinders available in 1500 and 3000 PSI. Ask for bulletin #731 (air) . . #701 (hydraulic).

LINDBERG AIR..HYDRAULIC CYLINDERS

Lindberg Engineering Company, 225 No. Laflin, Chicago 7, Ill.

For more details circle **NED-81 L3** on enclosed inquiry slip

HOLE SAW-ROTARY PLANER
cuts 1⅛ to 2½-in. holes

Twist of the calibrated dial on this dial saw and rotary planer adjusts three sliding blades to cut any size hole from 1⅛ to 2½ in. in wood, plastics, steel and other materials. It is usable in any ⅜ or ½-in. chuck of power drill or drill press. By removing the pilot drill, the dial saw can be used as a rotary planer. Unit is offered with sets of wood and metal cutting blades. Price is $12.95. Made by **Erwood, Inc.,** 1772 Berteau St., Chicago 13, Ill.

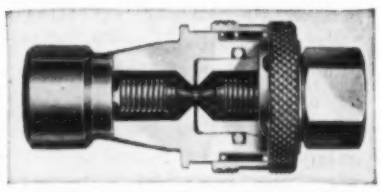
For more details circle **NED-82 L3** on enclosed inquiry slip

STORAGE BINS
for storing flammable materials

Underwriters' Laboratories approved fusible link automatically releases the cover of Safeway storage bins in case of fire, allowing it to close tight. Bins are built of heavy gage galvanized iron and are angle iron reinforced. Fusible link is incorporated in mechanical device that holds cover open. Construction eliminates air seepage. Bins are built in 1, 2 and 3-bale capacities with legs or casters. Made by **J. D. Polis Mfg. Co.,** 2908 W. 26th St., Chicago 23, Ill.

For more details circle **NED-83 L3** on enclosed inquiry slip

SHUT-OFF COUPLING
hose connects or disconnects easily



Hydraulic and pneumatic lines in ⅛ to ⅜-in. sizes can be quickly and easily connected or disconnected with this type two-way shut-off coupling which supplements series HK line. Both socket and plug ends of line are instantly sealed when coupling is disconnected by torpedo valves which contact valve seats. When coupling is connected, fluid flows through freely with positive seal against leakage insured by compression of O-ring in socket body against outside surface of inserted plug. All coupling sizes are available in brass or steel. Made by **Hansen Mfg. Co.,** 4033 W. 150th St., Cleveland 11, O.

For more details circle **NED-84 L3** on enclosed inquiry slip

Save! with CARBON-GRAPHITE MATERIALS and COMPONENTS

Write for Booklet 40A for details on Stackpole carbon-graphite specialties to solve friction, temperature, corrosion, lubricating and arcing problems. Letterhead request, please!

- ✓ GROUND RODS
- ✓ VOLTAGE REGULATOR DISCS
- ✓ BEARINGS
- ✓ DASH POT PLUNGERS
- ✓ RESISTANCE WELDING AND BRAZING TIPS
- ✓ GLASS MOLDS
- ✓ NON-WELDING CONTACTS
- ✓ FRICTION SEGMENTS
- ✓ CLUTCH RINGS
- ✓ BRAZING BOATS
- ✓ MOLDS AND DIES
- ✓ CONTINUOUS CASTING DIES

STACKPOLE

STACKPOLE CARBON COMPANY • St. Marys, Pa.

EVERYTHING IN CARBON BUT DIAMONDS

For more details circle **NED-85 L3** on enclosed inquiry slip

INDUSTRIAL TRUCKS
... how to tell when they are

Busy?
Idle?
Lifting?
Engine Running?

A couple of screws or bolts does the job. Then the truck itself *writes its own story!*

Wax covered, no ink or pencil needed; a sapphire stylus marks the record—a picture of the day's work at a glance.

SERVIS RECORDER—closed. Just bolted on—no connection with any moving part.

Write for Bulletin IT

THE SERVICE RECORDER COMPANY
1375 Euclid Avenue • Cleveland 15, Ohio

For more details circle **NED-86 L3** on enclosed inquiry slip

BROWNHOIST BETTER
● BUY DIRECT FACTORY
● ROPE REEVE, LINK TYPE
● WRITE FOR CATALOG

BUILDS BUCKETS FROM FOR LESS POWER WHEEL

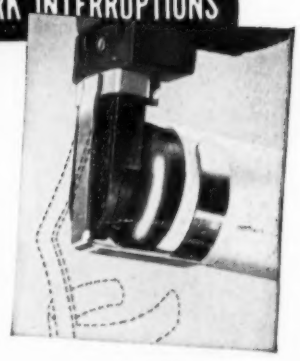
INDUSTRIAL BROWNHOIST CORP.
BAY CITY, MICHIGAN

156

For more details circle **NED-87 L3** on enclosed inquiry slip

STOP! INJURIES AND WORK INTERRUPTIONS

from falling fluorescent-tube accidents



Fluorescent tubes sometimes fracture. Vibration and shock may release them from fixtures. Wherever fluorescent lighting is installed there is the possibility of physical injury and property damage resulting from falling tubes.

Don't wait for accidents to happen. For a few cents each you can keep tubes in place, prevent falling, insure against poisoning, contamination and spoilage, avoid injuries, work interruptions and loss of time.

Install Den-El fluorescent lamp guards, easily and quickly, with a screw driver. Permanent, positive protection. Stainless steel. Easily sprung aside for relamping or cleaning. Two guards for each lamp.

Types for all fixtures, also tubes in series
For 40W tubes, per C **$17.00**
For 100W tubes, per C **$20.50**

ORDER TODAY DIRECT

Ask for bulletin, also complete General Scientific catalog of hundreds of other safety equipment items

All orders shipped promptly from Philadelphia

GENERAL SCIENTIFIC EQUIPMENT CO.
2701 W. HUNTINGTON ST., PHILADELPHIA 32, PA.

SAFETY EQUIPMENT FOR EVERY HAZARD

For more details circle **NED-88 L3** on enclosed inquiry slip

penco LOCKER LOCKS ITSELF!

UNIQUE PATENTED FEATURE!

Penco Steel Lockers are equipped with the finest automatic locking device—a feature that "forgives" forgetfulness, prevents thefts, permits authorized locker inspection without occupant's presence! Penco's 2-WAY ACTION gives choice of automatic or manual locking—a feature you'll want!

A Complete Line of Steel Lockers—Send for Catalog

PENN METAL Corporation of Penna. 85th YEAR OF SERVICE
82 OREGON AVE., PHILA. 48, PA.

For more details circle NED-89 L3 on enclosed inquiry slip

Got **NIGHTMARES** *about your plant on Weekends?*

Are your weekends spoiled by Watchman worry? Do you say to yourself—"I *wonder* if he's on the job!"

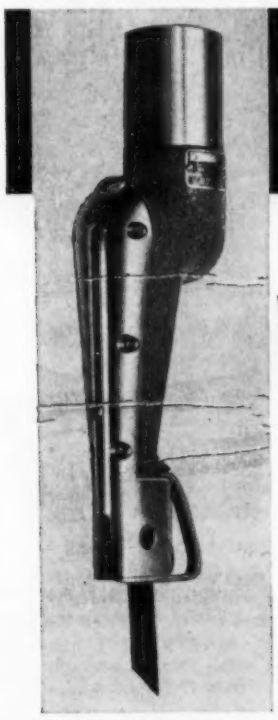
Unless your Watchman is supervised by a DETEX GUARDSMAN Watchclock, you are right to worry. The records show that idle plants are trouble spots—that there is a high incidence of fire, theft and vandalism on weekends.

The tape-recording GUARDSMAN, greatest advance in watchclock history, operates for 96 hours, if necessary. It is just as vigilant on weekends as on weekdays. You save needless overtime, because with the GUARDSMAN on the job, it isn't necessary to pay a supervisor to return to the plant Saturday and Sunday to change the clock dial.

A word to the wise! Get peace-of-mind protection with the GUARDSMAN. Write for free folder today.

DETEX WATCHMENS CLOCKS
PATROL ALERT ECO NEWMAN GUARDSMAN
DETEX WATCHCLOCK CORPORATION Dept. N-11 76 VARICK STREET, NEW YORK 13, N.Y. Sales and Service in All Principal Cities

For more details circle NED-90 L3 on enclosed inquiry slip



TOOL of a THOUSAND USES

TRI-SAW, All-Purpose, Portable Power Hacksaw

Still the same low price. ONLY $37.50

Makes Any Cutting Job Quick . . . Easy . . . Economical

Simply attach Tri-Saw to any 1/4" or 5/16" heavy duty drill—then zip through wood, sheet metal, heavy metal, nails, pipe and what have you, in seconds! Use this sensational time and work saving tool and you'll say it's the best all-purpose saw on the market. Only Tri-Saw gives you these exceptional features:

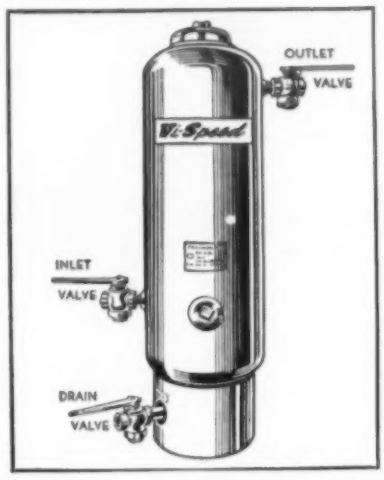
- No side torque or spin
- One shot lubrication
- Completely replaceable high speed bearings
- Improved dirt seal
- Needs no starting hole

See Tri-Saw at your jobber or write us for descriptive literature

MANUFACTURED BY
TRI-SAW CORPORATION
2207 HANLEY INDUSTRIAL COURT • ST. LOUIS 17, MISSOURI

For more details circle NED-91 L3 on enclosed inquiry slip

AIR DRYER-CLEANER employs chemical drying agent



Thoroughly dry and clean compressed air is provided by Vi-Speed dehumidifier-filter by triple exposure to Dryolite, a noncorrosive, chemically formulated drying agent. As air is swirled through mist of Dryolite solution, water, oils and solids drop to residue pool. Air continues in upward surge, constantly losing moisture, then moves through baffle system to dispel trace vapors. Units have range of 25 to 200 cfm at 100 psi, effective in temperatures from 100° F to below freezing. Made by **Van Products Co.**, 3782 W. Twelfth St., Erie 2, Pa.

For more details circle NED-92 L3 on enclosed inquiry slip

PRECISION BORING MACHINE compact enough for mounting on work-holding fixtures or jigs

Close tolerance boring is possible with model S-6 boring machine which is compact enough for mounting on work-holding fixtures or assembly jigs. Spindle feeds into work on principle of positive feed through oil displacement. Tolerance of ±0.0003-in. and finishes to 20 microinches or better are achieved. Bore diameter range is from 3/8 to 6½ in. with travel length of 6 in.

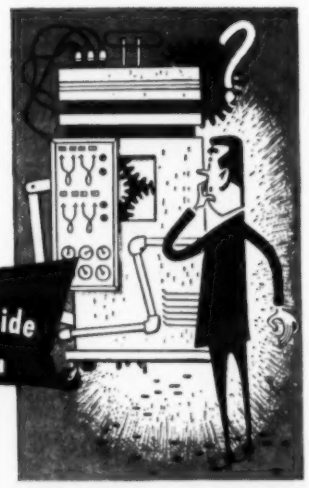
Because taper in spindle is eccentric, operator can increase bore diameter total of 0.014-in. in 0.001-in. increments without resetting tool. Feed is 0.004-in., reducible to 0.002-in. Machine is available for right or left-hand mounting, with minimum center-to-center distance between spindles of 4¾ in. It can be obtained as basic unit or designed into special boring setups to specification. Made by **Hydro-Borer Co.**, Dept. N, 1601 E. Olympic Blvd., Los Angeles 21, Calif.

For more details circle NED-93 L3 on enclosed inquiry slip

DO YOU KNOW? Wide range of sizes of Cadco cast acrylic plastic rods and tubes is now being produced under Du Pont license. Tubes and rods have brilliant clarity, are easy to form, have high impact strength and are extremely transparent. Made by Cadillac Plastic Co., 15007 Second Ave., Detroit 2, Mich.

For more details circle NED-94 L3 on enclosed inquiry slip

The freezer's automatic
The stove and TV too
The washer shuts itself off
Then starts itself anew
The car's a
Mushomatic Eight
Remote controlled by knee
And who's in charge of
all this stuff?
Unautomatic me!



CASTINGS on the lighter side by WELLMAN

If weight is a factor in the product *you're* in charge of purchasing, engineering or manufacturing, turn *automatically* to WELLMAN.

We've been in charge of producing castings on the lighter side, aluminum and magnesium, for almost half a century.

Catalog No. 53 will fill you in on the details.

Well-Cast MAGNESIUM AND ALUMINUM CASTINGS
Well-Made WOOD AND METAL PATTERNS

THE WELLMAN BRONZE & ALUMINUM CO.
Dept. 15, 12800 Shaker Boulevard Cleveland 20, Ohio

For more details circle NED-95 L3 on enclosed inquiry slip

HOMER PERMANENT non-electric MAGNETIC DRUMS and DUCTS for AUTOMATIC REMOVAL of TRAMP METALS

Pat. Pending

HOMER Magnetic Ducts for the removal of tramp iron from Air or Gravity conveyed Grains, Textile and Chemical materials, etc. These units are used with almost any type of processing machinery.

HOMER Magnetic Drums for removal of tramp iron from fine or pulverized dry products, as, Foods, Chemicals, Plastics, Paint Pigments, etc. These units can be used with chutes, hoppers, screw or belt conveying machinery.

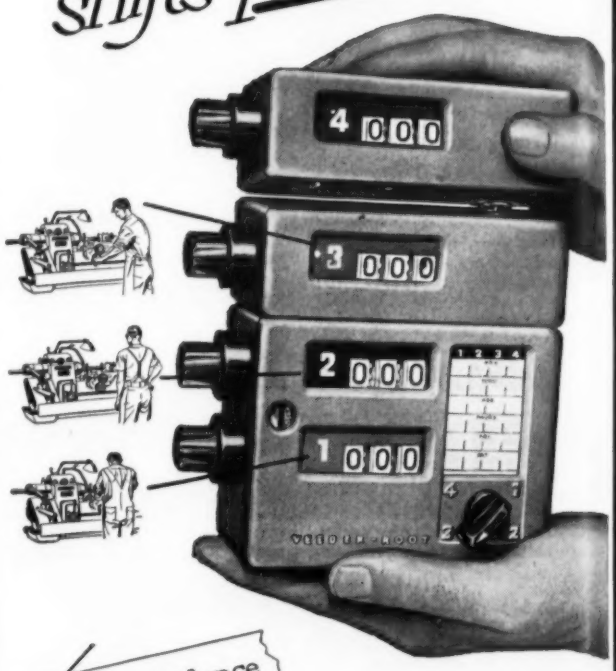
Send for detailed information.

Homer **The HOMER MANUFACTURING CO., Inc.**
Dept. 1-25 LIMA, OHIO

Producers of Magnetic Separator Equipment Since 1923

For more details circle NED-96 L3 on enclosed inquiry slip

It keeps a Separate Count of each shift's production!



Added Evidence that

Everyone Can Count on VEEDER-ROOT

Here's a counter whose "count-ability" challenges your imagination. For this counter records, on a separate counting unit, the production of 1, 2, 3, or more shifts. The additional 4th unit can be used as a run or batch counter. These Veeder-Root 2-3-4 Convertible Shift Counters are applicable to a wide variety of production machines, to count in practically any unit desired . . . revs, strokes, pieces, or what do *you* want to count? *Write:*

VEEDER-ROOT INCORPORATED
HARTFORD 2, CONN.

For more details circle NED-97 L3 on enclosed inquiry slip

All aboard for MODERN, FASTER FINISHING...New Economy, Quality, Versatility

Lionel assembly-line operation de-burring sharp edges and flashing on locomotive

LIONEL HIGHBALLS PRODUCTION WITH BRIGHTBOY!

See the newest Lionel Trains, soon arriving in your nearby stores! See the superb Brightboy de-burring work that makes the metal edges and surfaces smooth and safe in the hands of junior railroaders!

Brightboy, in many time-saving textures, will speed up your production time table. You will get faster, finer finishing of stainless steels, forged aluminum, hard metals and all others—*and* plastics, wood, glass, laminated materials.

Ask your dealer to recommend the Brightboy textures best suited to your work—and for the Brightboy Catalog-Manual. Write us if he cannot supply you, or on any problem where finishing is involved.

BRIGHTBOY INDUSTRIAL DIVISION
WELDON ROBERTS RUBBER CO.
95 No. 13th St. Newark 7, N. J.
America's Pioneer Manufacturer of Rubber-Bonded Abrasives

Brightboy REG. U.S. PAT. OFF.

▲ For more details circle **NED-98 L3** on enclosed inquiry slip ▲

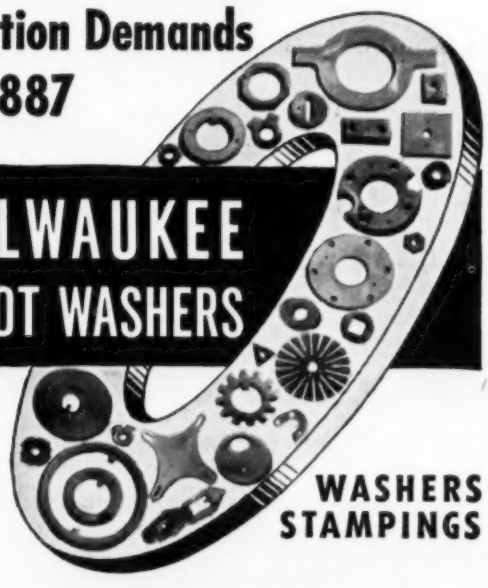
Quality control is a term that can mean everything or nothing. At AMERICAN WELDING it is referred to as *quality self control.* Every man and woman at AMERICAN WELDING feels an individual responsibility to make his work conform to the standards represented in the A.W.Q. symbol. It's the *personal* symbol of the 800 experts that are joined in a common pledge to give you the best in welding.

Why not call in an AMERICAN WELDING representative today to survey your welding requirements. Branch offices in major cities.

THE AMERICAN WELDING & MANUFACTURING CO.
170 DIETZ ROAD • WARREN, OHIO

▲ For more details circle **NED-99 L3** on enclosed inquiry slip ▲

Geared to Industry's Production Demands Since 1887

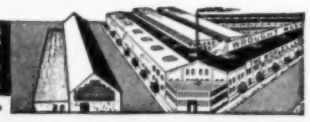


MILWAUKEE WROT WASHERS

WASHERS STAMPINGS

Offering the most complete line of washers available today . . . all types and sizes, all materials, all finishes. More than 25,000 sets of dies. Let us quote on your requirements.

WROUGHT WASHER MANUFACTURING CO.
The World's Largest Producer of Washers
2256 S. BAY ST., MILWAUKEE 7, WIS.



A 7511-1/9

▲ For more details circle **NED-100 L3** on enclosed inquiry slip ▲

POWER HACK SAW
portable unit cuts in any position

With a weight of 50 lb, Hand-I-Hack portable hack saw will cut up to 3-in. diameter stock at any angle from 45 to 90 degrees. Saw blade draw cuts and lifts on its return stroke, eliminating the necessity for weights and permitting use in any position. Work vise can be clamped to a stanchion or pipe to give support. Saw pressure is adjustable for different materials, and operation is automatically shut off after cut is completed. Blade speed is 115 strokes per minute. Semisteel machine type vise has sliding jaw and is adjustable and calibrated for cutting angles up to 45 degrees. Made by **Lipe-Rollway Corp.,** 710 Emerson Ave., Syracuse 1, N. Y.

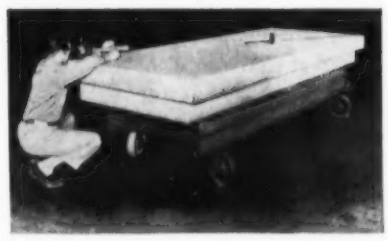
▲ For more details circle **NED-101 L3** on enclosed inquiry slip ▲

BALL BEARING PILLOW BLOCKS
light duty units are self-aligning

Series of light duty type PB ball bearing pillow blocks has housing which provides initial self-alignment in all directions. They are ready to mount and include separable two-piece pressed steel housing, wide inner ring ball bearing with locking collar and bearing seals. Bearing is lubricated for life and is recommended for speeds up to 2400 rpm. Radial load capacity varies between 300 and 600 lb, depending on shaft size. Standard shaft sizes are from ¾ to 1¼ in. in increments of 1/16 in. Low cost unit is made by **Fafnir Bearing Co.,** Dept. B, New Britain, Conn.

▲ For more details circle **NED-102 L3** on enclosed inquiry slip ▲

GRANITE SURFACE PLATES
surface accuracy to 0.00005-in.

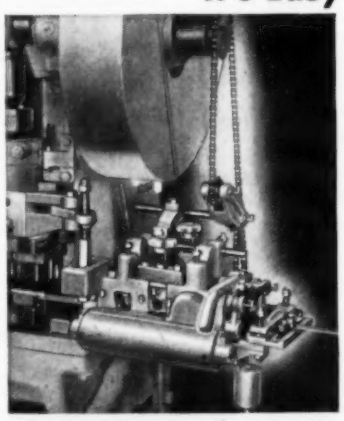


To supplement company's line of premium black granite surface plates, a line of lower cost gray granite plates is now available with the same surface accuracies. Costs range to 21 per cent less than those of black granite. Sizes range from 12 x 18 in. to 48 x 72 in. made in 2 and 4-clamp edge types. Surface accuracies are finished down to 0.00005-in. Made by **Collins Microflat Co.,** 2326 E. Eighth St., Los Angeles 21, Calif.

▲ For more details circle **NED-103 L3** on enclosed inquiry slip ▲

Get RAPID-FIRE PRODUCTION from your PUNCH PRESSES

It's Easy with WITTEK Automatic Roll Feeds



Wittek automatic roll feeds fit all makes and sizes of punch presses — provide maximum efficiency and extreme accuracy in the high speed automatic feeding of strip stock. Made in single roll, double roll, and compound types with straighteners, in models to feed (push or pull) in any direction. Length of feed is easily adjusted to meet individual requirements.

WITTEK Reel Stands
Simplify Handling of Coiled Stock

4472

Choice of standard models to facilitate handling coiled stock . . . from small, light coils to those weighing up to 800 pounds. Larger reel stands automatically center the coils — provide frictional braking action to prevent overrunning, maintain uniform coil slack.

Write for full particulars

WITTEK Manufacturing Co.
4325 W. 24th Place, Chicago 23, Illinois

Automatic ROLL FEEDS AND REEL STANDS

▲ For more details circle **NED-104 L3** on enclosed inquiry slip ▲

with AURAND CLEANING TOOLS

Clean off accumulations of scale, paint, rust or any foreign matter from any hard surface with Aurand Cleaning Tools. Toothed cutting wheels, loose pinioned on rotating head chip away accumulations at high speed. Positive depth shoe prevents cutting into permanent surface and assures uniform cleaning of entire area.

Two sizes in electric or pneumatic models.

For full details, write Dept. 14

AURAND MFG. & EQUIP. CO.
2643 Colerain Avenue • CINCINNATI, OHIO

▲ For more details circle **NED-105 L3** on enclosed inquiry slip ▲

SPECIFY HERC-ALLOY SLING CHAINS

Hundreds of plants like the one shown above* are using Herc-Alloy Sling Chains. Greater safety is their big reason for doing it. But there are other factors too. Herc-Alloy is economical because of its long service life. Then too, the use of alloy steel permits a weight reduction that helps prevent worker fatigue. These advantages are worth thinking about. Those who do consider them seriously generally adopt safe Herc-Alloy Sling Chains for their plants.

Write for Data Book

HERC-ALLOY Sling Chains are made-up to order, are individually tested, registered and guaranteed.

*LAKE ERIE ENGINEERING CORPORATION — MANUFACTURER OF HYDRAULIC PRESSES

COLUMBUS McKINNON CHAIN CORPORATION
HOISTS AND CHAIN
TONAWANDA, NEW YORK
DISTRICT OFFICES: NEW YORK, CHICAGO, CLEVELAND
In Canada: McKINNON COLUMBUS CHAIN LIMITED, ST. CATHARINES, ONT.

▲ For more details circle **NED-106 L3** on enclosed inquiry slip ▲

New! PORTER-CABLE'S Professional 8¼" SAW

"CONTRACTORS' SPECIAL"... MODEL 108

Has more advanced features than any other saw! ONLY $95.

Big capacity, 10% more power, a full 2⅞" cut at 90°! Zips through rip cuts, cross cuts, compound miters — cuts off 1" x 10" pine in 1 second! Light (13½ lbs.); full-grip handle — easy to use anywhere. Safest saw on the market, for four exclusive reasons: (1) Cam-action telescoping guard, (2) Auxiliary front guard, (3) Extended wide-rest base, (4) Kickproof clutch!

Full protection for speedy ALL-DAY Sawing—on any job!

Get a demonstration of this new saw at your dealer's. Or, write us, and we'll send you a free 50-page manual on saw operation along with complete details on the new Model 108.

Porter-Cable Machine Co.
1411 N. Salina St., Syracuse 8, N. Y.
(In Canada: Strongridge, Ltd., London, Ont.)

Porter-Cable
Quality Electric Tools

For more details circle NED-107 L3 on enclosed inquiry slip

Give yourself the

Unbeatable Performance of the RIDGID Heavy-Duty Pipe Wrench

Every RIDGID Wrench Factory-Tested

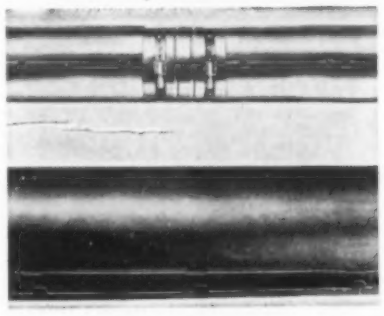
That's what makes sure that every RIDGID performs as you've learned to expect... *every* part inspected, *every* wrench pipe tested 100%! Only RIDGID's housing is unconditionally guaranteed, saving you bother and expense. Full-floating hookjaw, adjusting nut spins easily in all sizes, 6" to 60"; replaceable alloy jaws, handy pipe scale on hookjaw, comfort-grip I-beam handle. For most service for your money, buy RIDGID's... at your Supply House.

THE RIDGE TOOL COMPANY • ELYRIA, OHIO, U.S.A.

RIDGID Work-Saver Pipe Tools

For more details circle NED-108 L3 on enclosed inquiry slip

VENTILATING PIPE joined with crimpless connector



Twenty feet of Jenkins Speed-Lok aluminum or galvanized pipe for ventilating use can be assembled in 1 minute by making use of Tite Aire pipe connectors. Pipe is made in 5-ft lengths and 4 to 36-in. sizes. Tabs located every 6 in. along the male seam are inserted in corresponding slots in the female seam, after which they are bent over by finger pressure to form a breakproof lock. Pipe is not crimped at the joints. Lengths are joined by inserting ends into the connector, then tightening two aluminum worm clamps. Connectors can be used with other types of pipe as well as on tubing of sheet metal, plastic, fiber, asbestos, etc. They are made in 4 to 100-in. diameters of aluminum, galvanized steel, heavy gage steel, copper and Monel. Made by **Ralph Mfg. Co.**, Dept. NED-53, P. O. Box 188, Wadsworth, O.

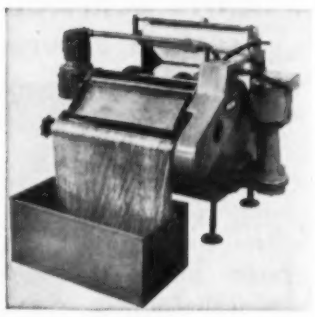
For more details circle NED-109 L3 on enclosed inquiry slip

CUTTING & GRINDING OIL is stable, resistant to rancidity

High metal cutting and grinding value, stability and resistance to rancidity are characteristics of Dasco, a water-mix soluble base oil. It can therefore be used in leaner mixtures than ordinarily recommended for soluble oils. Mixtures usually start at 40 to 1 for milling, drilling, turning, boring, sawing and reaming, while grinding mixtures leaner than 100 to 1 have given good results. Formulated by **D. A. Stuart Oil Co.**, 2747½ S. Troy St., Chicago 23, Ill.

For more details circle NED-110 L3 on enclosed inquiry slip

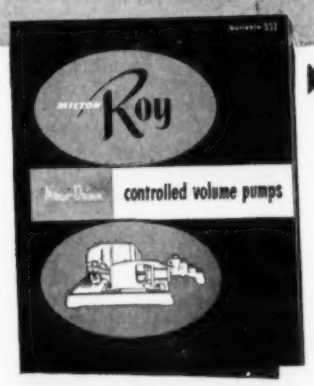
COMBINATION FILTER has fabric and magnetic filtration



Large capacity nonmagnetic and magnetic Kleen-all filter has a flow capacity four times greater than that of the original unit. After exposure to the field from permanent magnets in the rotating drum, contaminated coolant flows through filtering fabric of predetermined porosity before returning to the storage reservoir for reuse. Fabric is automatically fed into the filtering pool as required. Unit can be supplied without magnetic drum for cleaning coolant from nonmagnetic metalworking operations. Made by **Barnes Drill Co.**, 866 Chestnut St., Rockford, Ill.

For more details circle NED-111 L3 on enclosed inquiry slip

A NEW MILTON ROY BULLETIN ON MOTOR-DRIVEN CONTROLLED VOLUME PUMPS



BULLETIN NO. 553

This is a *valuable reference book* for your library on pumping in controlled volume. Send for your free copy.

• • •

Here's an informative, helpful Bulletin which tells you what *Milton Roy Motor-Driven Controlled Volume Pumps are—what they do—how they do it!*

• The Bulletin is profusely illustrated, with photographs, diagrams, helpful applications, selection charts and data.

• Chemicals handled with these versatile pumps, together with crisp color charts showing relative corrosion resistance of various metals, are given.

• Pump capacity regulation by various plunger speed and stroke adjustments are described. Application to modern instrumentation processes is explained.

MILTON ROY COMPANY
1304 E. MERMAID LANE • PHILADELPHIA 18, PA.

For more details circle NED-112 L3 on enclosed inquiry slip

MARKING NAME PLATE PANELS?

Specify MODEL PSF-10 PRESS STAMPING FIXTURE

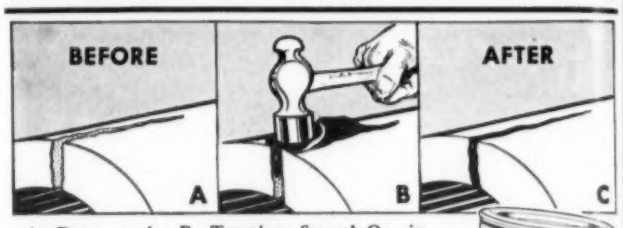
One stroke of the press marks any number of name plate panels with one or more characters—neatly and legibly—with this press stamping fixture. Gauge pins provide for quick, accurate positioning of plates for fast production marking. Send sample plates and panel marking for prompt quotation.

Write for new Catalog 100 today!

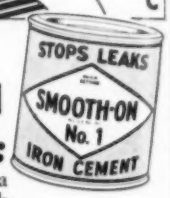
Mecco SAFETY MARKING TOOLS

M.E.CUNNINGHAM CO.
1055 CHATEAU STREET, PITTSBURGH 33, PA.

For more details circle NED-113 L3 on enclosed inquiry slip



A—Deep crack. B—Tamping Smooth-On in. C—Crack completely sealed.



If You've Never Used SMOOTH-ON, *read this:*

Smooth-On No. 1 Iron Cement is a metallic powder which you mix with water to the consistency of putty. You tamp it, while still soft, into a crack or hole, making sure to force it against all surfaces. With Smooth-On you don't need to use heat or special gadgets. As it hardens, it expands slightly, clinging tightly in place. The repaired part is ready for use as soon as Smooth-On sets hard. Keep Smooth-On handy for both emergency and routine maintenance repairs. Buy it in 7 oz., 1 lb., 5 lb., 20 lb., or 100 lb. size. If your supply house hasn't Smooth-On No. 1, write us.

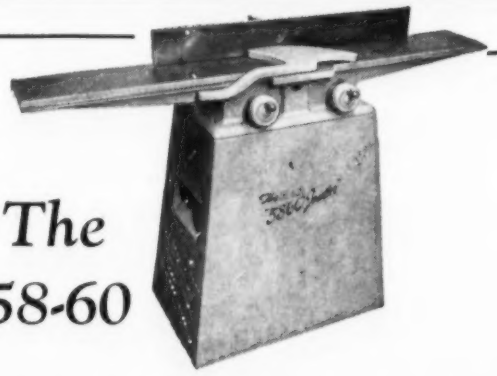
FREE 40-PAGE REPAIR HANDBOOK

Shows many industrial and home repairs made with No. 1 and other Smooth-On Cements. Leaks stopped, cracks sealed, loose parts made tight. 140 illustrations. Drop us a line for YOUR free copy.

SMOOTH-ON MFG. CO., Dept. 10
570 Communipaw Ave., Jersey City 4, N. J.

Do it with SMOOTH-ON
THE IRON REPAIR CEMENT OF MANY USES

For more details circle NED-114 L3 on enclosed inquiry slip



The 58-60

MODERN NEW JOINTER!

60 inch table . . 37 inch fence

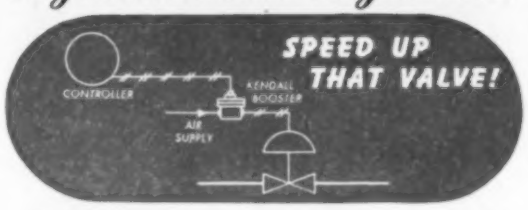
Here's the new 6-inch jointer with smooth tapered stand designed by Heston & Anderson. Try its big table. See how its 37 inch fence steps up production. Built for heavy duty, the 58-60 will more than do its job in any plant or work shop.

Send today for the name of your nearest dealer!

HESTON & ANDERSON
Division of St. Paul Foundry & Mfg. Co.
18-7G FAIRFIELD, IOWA

For more details circle NED-115 L3 on enclosed inquiry slip

Engineered Air Regulation



We say—**It's easy and inexpensive to minimize valve response lag in even the biggest diaphragm motor or cylinder type actuator when a KENDALL Booster triggers the action.**

Prove our statement by testing this air volume amplifier on your most sluggish valve.

Write for Bulletin 4522 describing the Kendall Model 20 Precision Air Volume Booster with its

- **High capacity – both supply and relief**
- **Perfect balance against supply pressure changes**
- **Precise ratios**

Ratio No.	Loading Pressure	Output Pressure
1	Each 1 PSI	produces 1 PSI
1/2	" 1 "	" 1/2 "
1/3	" 1 "	" 1/3 "
2	" 1 "	" 2 "
3	" 1 "	" 3 "

KENDALL CONTROLS CORPORATION
144 MOODY STREET WALTHAM 54, MASS.

For more details circle **NED-116 L3** on enclosed inquiry slip

Mark your own symbols, numbers, lettering, on your small parts, tools, identification and name plates . . . easily, simply, quickly . . . tracing from a master with the GREEN ENGRAVER.

Widely used in electronic and plastic fields, in machine tool shops and wherever permanent marking is needed. The GREEN ENGRAVER engraves equally well on metals, plastic, wood, hard rubber and glass.

Fact-filled folder on request . . . showing how economies in costs, labor and time are achieved with the GREEN ENGRAVER.

Routs Profiles Models Engraves

Etching attachment and other special equipment for industrial uses are available.

Green Instrument Co.
INCORPORATED
375 PUTNAM AVE., CAMBRIDGE, MASS.

For more details circle **NED-117 L3** on enclosed inquiry slip

NOW... P&H ZIP-LIFT

A NEW "ZIP"

*with Rope Control**

ONLY $199.50

Yes, it's here — the famous P&H Zip-Lift Electric Hoist with an amazing new price tag of *only* $199.50.

Now have these advantages —

- *Wire Rope Hoisting*
No troublesome chains or hidden weaknesses! You get free, easy handling with wire rope — and wide range of side pulls, too.
- *New Rope Control*
Handling is simpler with P&H's unique control designed for fast "one-hand" operation.
- *25% Overload Capacity*
This extra safety factor gives an overload margin up to one-fourth above rated capacity during intermittent usage.

Call your nearby P&H dealer and learn about the latest handling short cuts. He'll show you where and how to cut costs with a "Zip".

Handle it "Thru-the-Air" faster — at lower cost

*Push button control also available as optional equipment

P&H HOIST DIVISION
HARNISCHFEGER CORPORATION
MILWAUKEE 46, WISCONSIN

For more details circle **NED-118 L3** on enclosed inquiry slip

ELECTRIC IMPACT HAMMER
impacts adjustable to 10,000 lb at rates up to 75 blows per minute

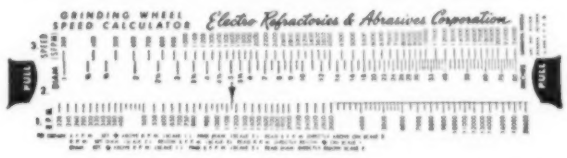
Heavy-duty staking, crimping, punching, forming, riveting, stamping and marking are functions for which model C Electropunch electric impact hammer is particularly suitable. Open-back bench unit is capable of impacts adjustable from few pounds to 10,000 lb at rates up to 75 blows per minute. It operates on electromagnetic principle, deriving power from solenoid, and plugs into any 110-v ac outlet. Selenium rectifier transforms alternating current to direct current.

Unit is operated by momentary contact hand, foot or automatic switch, or automatically with limit switch. Only moving part is integral armature and spindle unit which moves in 3-in. honed bronze bearing. Nonmagnetic steel spindle is guided to prevent rotation. Shut height adjusts 5½ in. from 1¼ to 6¾ in., and power stroke is 2 in. Work table measures 7⅞ x 6 in. Made by **Black & Webster, Inc.**, Dept. N-26, 445 Watertown St., Newton 58, Mass.

For more details circle **NED-119 L3** on enclosed inquiry slip

GRINDING CALCULATOR
slide type computes wheel speeds

Correct grinding wheel speeds can be calculated by this pocket slide rule, offered by Electro Refractories & Abrasives Corp. It deals with three factors: sur-



face feet per minute, revolutions per minute and wheel diameter. If any two of these are known, the other can be determined with the calculator. It also contains a table showing maximum peripheral speeds in surface feet per minute for various types of wheels and bonding vehicles. Specifiers, users and buyers of grinding wheels in companies using over 100 wheels per month can obtain the calculator free by circling the number below.

For more details circle **NED-120 L3** on enclosed inquiry slip

Importance of Good Floors

Monroe Co.—Explanation of the differences between floor requirements for various industries is found in 20-page illustrated booklet "Floors." It lists Monroe floor resurfacing and repair products, describes qualities of each and recommends uses to which each should be applied. Methods of application are described.

For more details circle **NED-121 L3** on enclosed inquiry slip

DUST is no joke!

ELIMINATE ABRASIVE DUSTS AND IMPROVE WORKING CONDITIONS WITH

TORIT DUST COLLECTORS

Here a Torit 19-FB Dust Collector is eliminating bad dust and lint conditions connected with the polishing of rock drill bits. Wheel hoods, too, are Torit designed.

Note how completely the wheels are hooded, yet there is no interference with operations. The powerful suction of the Torit Dust Collector insures that no dust gets in the operator's eyes.

With Torit Dust Collectors you see what's going on. The compact units take up little room. They set close to machines to minimize piping and reduce friction losses.

To see the end of dust in your plant, call on Torit. Standard model Torit Dust Collectors fit most operations, and special adaptations can be quickly fabricated. Just write to:

see our catalog in MACHINE TOOL CATALOGS or write for copy

TORIT

Torit Dust Collectors are available in both cabinet and cyclone types, in sizes ranging up to 5 H. P. capacity.

TORIT MANUFACTURING CO.
298 Walnut Street St. Paul 2, Minn.

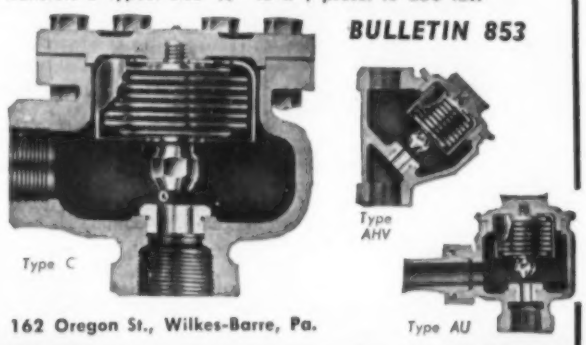
For more details circle **NED-122 L3** on enclosed inquiry slip

Nicholson Steam Traps Test

MAXIMUM CAPACITY PER $ COST

One of the nation's largest plants recently conducted comparative tests of steam traps. They showed that Nicholson traps "provide lowest initial cost for handling larger amounts of condensate". Other Nicholson features: operate on lowest temperature differential; only one moving part; freeze-proof. See why leading plants are increasingly standardizing on Nicholsons for faster heat transfer. 5 types: size ¼" to 2"; press. to 250 lbs.

BULLETIN 853

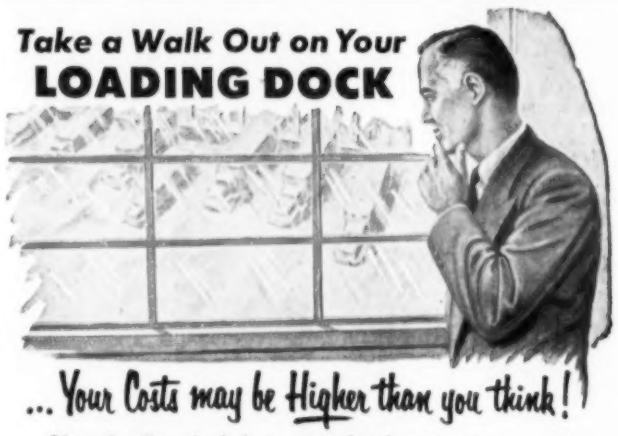


162 Oregon St., Wilkes-Barre, Pa.

W. H. NICHOLSON & CO.
TRAPS · VALVES · FLOATS

For more details circle **NED-123 L3** on enclosed inquiry slip

Take a Walk Out on Your
LOADING DOCK



... Your Costs may be Higher than you think!

Your loading dock is a control valve to costs . . . an indispensable gateway to profitable operations! Gear it for smooth, rapid transit between plant and freight carrier by equipping your docks with Magliner magnesium dock boards. Easily handled by one man, Magliner dock boards expedite the flow of materials in and out of loading areas . . . keep shipments moving! They can add substantially to greater loading capacity . . . *without adding to capital expenditure!*

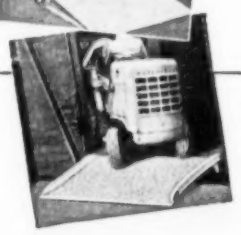
Designed to exact specifications, Magliner dock boards are custom engineered to overcome any normal or unusual loading problems, regardless of location complexities, area size, load to be handled, or equipment used! Of all-magnesium, bridge-design construction, these low cost, high output units combine the amazing lightness . . . the amazing strength of the world's lightest structural metal! They are capacity rated to handle the heaviest load requirements. Get greater returns on your handling dollar! Get the complete story on low-cost Magliners for *your* docks. Write for information bulletin DB-204R.

magnesium LIGHT

Easily handled by one man! No work-stopping interruptions! Reduces lifting hazards.

magnesium STRONG

Bridge-design construction. Capacity-rated to handle the heaviest load requirements.

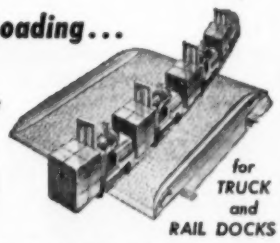


magnesium SAFE

Damage-proof safety curbs prevent truck roll-offs . . . eliminate tire damage and curb damage! Positive lock prevents shifting. Assured safety to men and equipment!

For Faster, Lower-Cost Loading...

MagLiner
MAGNESIUM
DOCK BOARDS



Write for Descriptive Bulletin DB-204R

MAGLINE INC., P. O. BOX 392 • PINCONNING, MICHIGAN

For more details circle **NED-124 L3** on enclosed inquiry slip

1 man handles Sheet Steel Faster, Easier with a C-F LIFTER

C-F Lifters, under one man operation, pick up, carry and unload more sheet steel tonnage per hour than any other method – and at lower cost per ton. Wide carrying angles hold sheets securely – won't damage high grade sheets; tong action insures safe carrying; fast opening and closing adjustments of Lifter jaws permit shifting from one size pack to another in seconds. C-F Lifters are made in standard or semi-special models to handle from 2 to 60 tons.

Write for Bulletin SL-28 for specific examples of C-F Lifter operation and economy.

CULLEN-FRIESTEDT CO.
1304 South Kilbourn Avenue • Chicago 23, Illinois

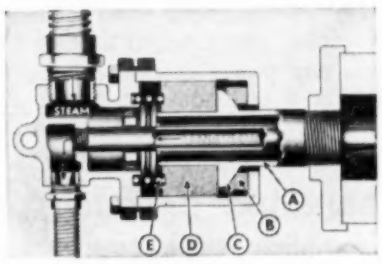
For more details circle NED-125 L3 on enclosed inquiry slip

DOOR SAFETY DEVICE
stops closing doors when contacted

Instantly reversible device stops closing industrial doors when contacted by objects as fragile as a hard-boiled egg. It consists of a strip of hollow tubing extending along the closing edge of the doors which causes the door to reopen when touched. Feature is available on Bi-Fold, horizontal sliding and vertical lift doors. Made by **Clark Door Co.**, 515 Hunterdon St., Newark 8, N. J.

For more details circle NED-127 L3 on enclosed inquiry slip

ROTATING JOINTS
for 150 to 250 psi pressures are now smaller, lighter in design



Lighter weight, smaller size and thicker self-lubricated carbon graphite rings are improvements in series 2000 type S self-supporting joints for admitting steam or other fluids into rotating rolls of paper and textile machines. Joints are packless, require no lubrication and are self-adjusting to varying pressures. They will shift as roll shifts when lateral movement is encountered. Available in wide range of threaded nipple sizes, for 150 to 250 psi pressures and for 450° F maximum temperature, joints are offered with both through-flow and syphon pipe type arrangements.

In illustration, nipple (A) which is attached to roll has convex, hemispherical collar (C) which rotates against matching concave surface of carbon-graphite seal ring (B). Bearing surface of nipple rotates in carbon-graphite guide (D) which is closely fitted into the body. Spring (E) maintains an initial seating pressure within the joint. Made by **Johnson Corp.**, 812 Wood St., Three Rivers, Mich.

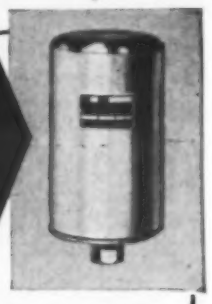
For more details circle NED-128 L3 on enclosed inquiry slip

Motor Starters

Allis-Chalmers Mfg. Co.—Type H starters built to control squirrel-cage, synchronous, wound rotor and multispeed motors in ratings from 2200 to 5000 v, with air or oil contactors, are subject of 12-page illustrated bulletin. Starter ratings are up to 3000 hp. Such features as short circuit, overload, time relay undervoltage and pull-out protection are covered.

For more details circle NED-129 L3 on enclosed inquiry slip

SENSITIVE, PRECISE PRESSURE-VACUUM CONTROLS



TYPE G9

The pressure vacuum control illustrated is an accurate, highly sensitive, precision-built unit. It may be had with an internal or external, calibrated or uncalibrated adjustment. It is watertight unless the adjustment is external.

It is designed for applications requiring constant repeatability of any on-off differential between .2" and 10" w.c. For full details send for bulletin #5-1.

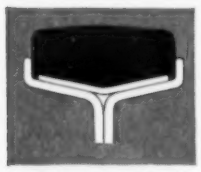
UNITED ELECTRIC CONTROLS COMPANY
81 School Street, Watertown, Mass.

STANDARD & SPECIAL THERMOSTATS & PRESSURE SWITCHES

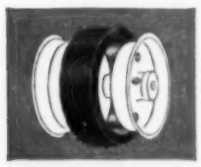
For more details circle NED-131 L3 on enclosed inquiry slip

AT LAST! something REALLY NEW in industrial wheels... Rapistan's MB

The first STEEL BASED rubber tire demountable wheel



Live rubber tread is bonded for life to band of steel. Cannot slip, stretch or creep. Neoprene available at no extra cost.



Just four bolts to loosen for tire replacement. One-piece hub assembly with felt-sealed roller bearings, extra-large grease reservoir, steel hubcap.

Now it's a fact. A tested fact! A demountable wheel with a thick, live rubber tire *bonded to a band of steel!* A wheel that gives you the performance of a molded-on rubber type . . . the quality of a high-priced pressed-on industrial type . . . and the economy of a demountable type wheel.

Your savings add up to 30%

The MB wheel costs about 10% less than the average molded-on wheel. But you really save money when the tire is worn. You don't discard the wheel. You don't ship it back for retread. You simply replace its steel-bonded tire quickly and inexpensively. Result—a whopping 30% saving compared to molded-on rubber wheels.

Proved beyond 28 doubts!

Gruelling laboratory "punishment" tests, and comparative service tests conducted for six months in 28 leading plants have proved the Rapistan MB is *it*—superior beyond doubt. The results of these tests are yours for the asking. Write for the facts and judge for yourself.

SEND ME PROOF

Send me test results and comments of test-users concerning the MB Wheel. Also specifications and prices on sizes now available.

The RAPIDS-STANDARD CO., Inc 83 Rapistan Bldg., Grand Rapids, Mich.

Rapistan®
Fastest Growing Name in Casters
Representatives in Principal Cities

Name_____
Firm_____
Address_____
City_____ Zone____ State____

For more details circle NED-126 L3 on enclosed inquiry slip

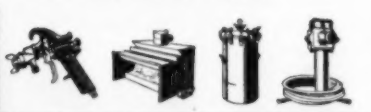
NEW! ONLY 15 OUNCES!

Binks Model 26 Spray Gun

Model 26 meets the need for a lightweight production gun. Well-suited to women operators. Excellent for touch-up work on production-line products, in factory maintenance, etc. Low cost but with such heavy-duty features as cartridge-type air valve and brass fluid passage for maximum protection of the aluminum gun body.

Send for Bulletin 26
Colorful bulletin, just printed, explains how featherweight Model 26 saves time and money. Write: Binks Manufacturing Co., 3122-34 W. Carroll Ave., Chicago 12, Ill.

Binks EVERYTHING FOR SPRAY PAINTING



GUNS • SPRAY BOOTHS • MATERIAL TANKS • EXTRACTORS & ACCESSORIES

REPRESENTATIVES IN PRINCIPAL U. S. & CANADIAN CITIES • SEE YOUR CLASSIFIED DIRECTORY

For more details circle NED-130 L3 on enclosed inquiry slip

42 STOCK SIZES

HALLOWELL® SOLID STEEL COLLARS

now size-marked for easy identification

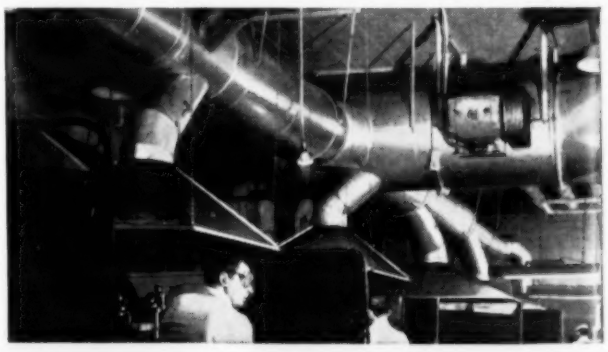
Your HALLOWELL distributor now stocks these *size-marked* precision machined solid steel collars in sizes to fit shafts from 3/16" to 3" inclusive. And positive positioning of every HALLOWELL Collar is assured by the famous self-locking UNBRAKO Socket Set Screw—the screw that won't work loose. Write for literature and the name of your nearest HALLOWELL distributor. STANDARD PRESSED STEEL CO., Jenkintown 24, Pa.

Our Fiftieth Year : A START FOR THE FUTURE

HALLOWELL POWER TRANSMISSION DIVISION

SPS JENKINTOWN PENNSYLVANIA

For more details circle NED-132 L3 on enclosed inquiry slip



brighten your production picture with HARTZELL Air-Moving Equipment

Put Hartzell's wealth of experience with fume, smoke and heat troubles to work on *your* problem. Canopies, properly fan or blower powered, over die-casting machines, acid tanks and other air-fouling equipment, can work wonders.

The Hartzell installation pictured above cured a real production headache.

But be sure the installation is *right. Cure* the trouble; don't experiment with it. Call in the organization which has the know-how and puts a specialist — the Hartzell field engineer — right in your backyard to bring you that know-how fast and dependably. Phone him now . . . or drop a card to us.

HARTZELL *propeller fan co.*
Div. of Castle Hills Corp.
Dept. G. PIQUA, OHIO

ENGINEERING OFFICES IN PRINCIPAL CITIES

For more details circle NED-133 L3 on enclosed inquiry slip

TURNTABLES AND POSITIONERS over 100 different types for welding, brazing, soldering, spraying, glass insulator melting and glass glazing, with rotating stations and indexing with barrel cam or geneva gear action. For work transferring, tilting positions, motorized or hand operated. Rotating tables of all kinds for over 33 years. Many types made by EISLER. We supply any part or complete equipment and we make special turntables to your order. Write for catalog.

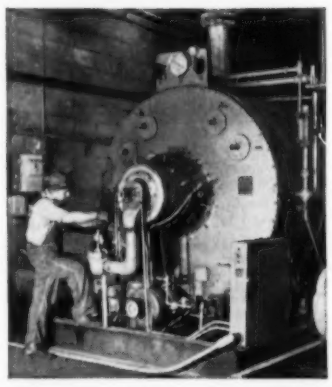
CAMS
MADE TO YOUR SPECS.

DR. CHARLES EISLER, M. E., PRES.
EISLER ENGINEERING CO. INC., 740 S. 13TH ST., NEWARK 3, N. J.

▲ For more details circle **NED-134 L3** on enclosed inquiry slip ▲

9 REASONS WHY STEAM COSTS GO DOWN

where *Powermasters* go in ....



COST-SAVING INSTALLATION—
complete factory assembled and fire-tested units delivered ready for operation as soon as connected to service lines; no foundation or costly stack needed.

FULLY AUTOMATIC CONTROL
provides maximum operating dependability and safety protection with minimum attention of operator.

3-PASS BOILER
produces most efficient flue gas velocity and heat transfer with maximum maintenance convenience.

INFINITELY VARIABLE COMBUSTION MODULATION
maintains most efficient firing at all loads. Instant response to load swings from 20 to 100% saves fuel, assures constant steam pressure and temperature.

STAGGERED TUBES
assure quicker heating, faster steaming and high quality dry steam; prolong tube life.

FORCED DRAFT
gives most accurate control of combustion and supply; saves equipment and maintenance costs.

83% GUARANTEED MINIMUM EFFICIENCY
saves fuel. At less than full load, Powermaster efficiency actually increases!

MAINTENANCE-SAVING ACCESSIBILITY
to water and fire sides simplifies tube cleaning and inspection.

VORIFLOW COMBUSTION
with air-atomizing oil burner or pre-mix gas burner keeps fuel costs down and boiler efficiency high at all loads. Combination burner allows quick change of fuel.

SEND FOR NEW BULLETIN 1219
Describes and illustrates all cost-saving features of Powermaster Packaged Automatic Boilers in sizes to 500 h.p. and pressures to 250 psi.

ORR & SEMBOWER, INC.
930 Morgantown Road, Reading, Penna.
BUILDERS OF COST-SAVING BOILERS SINCE 1885

▲ For more details circle **NED-135 L3** on enclosed inquiry slip ▲

SELF-CLEANING LIQUID FILTER
capacities are 10 to 1000 gpm

Settling, straining and flotation are basic methods of liquid clarification incorporated in this self-cleaning liquid filter, applicable to grinder coolant soluble or oil. Capacities range from 10 to 1000 gpm. Liquid enters filter at discharge end. When filter bed retards liquid flow, float raises, causing conveyor to move few inches to expose clean screen and restore flow rate. Conveyors move solids up discharge ramp slowly at intervals, allowing liquids to drain back to filter and leaving solids well drained. Made by **Henry Equipment Co.**, Dept. P, 503 Buttonwood Ave., Bowling Green, O.

▲ For more details circle **NED-136 L3** on enclosed inquiry slip ▲

METAL CUTTING SAW
chain vise holds all shapes

Slight pressure by the operator on the quick-acting foot - controlled chain vise on the Mercury abrasive metal cutting saw holds standard or irregularly shaped materials. Protective hood shields the wheel. Saw will make multiple cuts in aluminum, Dural, copper, brass, Monel, rail carbon and stainless steels, chrome-moly and other alloys, plus cement lined pipe, wire rope and Transite. A 2-in. steel or 4-in. cast iron pipe is cut in 5 seconds. One piece tilting cast iron table is balanced on a heavy cast pedestal. Saw is equipped with a 5-hp, three-phase, 60-cycle, 220/440-v motor, although other motors are available. Made by **W. F. Obear & Son**, Dept. 250, 6075 S. Normandie Ave., Los Angeles 44, Calif.

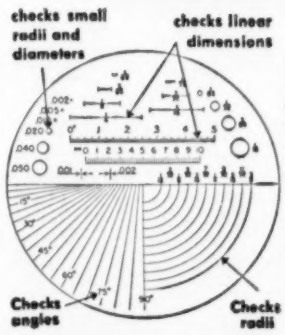
▲ For more details circle **NED-137 L3** on enclosed inquiry slip ▲

Jig & Fixture Components

Standard Parts Co.—Over 500 tool components are included in catalog on line of jig and fixture components. Many of parts drawings can be used for direct tracing and full size tracing templates for other sizes are available. Few of items included are double cam assemblies, jaws for 45 different chucks, heel clamps, swing C-washers and torque screws.

▲ For more details circle **NED-138 L3** on enclosed inquiry slip ▲

THE
Original BELL & HOWELL Pocket Comparator



Saves time and money inspecting small dimensions

● Here's *guaranteed* accuracy in checking small dimensions at a price any business can easily afford. Save time and money measuring wear on cutting tools, checking forms and dimensions of punches, dies and gauges—as well as chamfers, threads and small holes on production parts.

Thousands in use by America's leading precision manufacturers. It's the greatest time-saver since the micrometer!

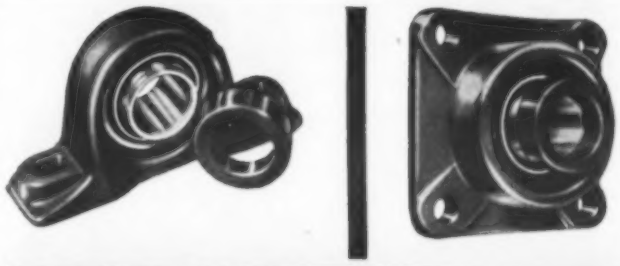
price only **$36.00** order today

a product of **BELL & HOWELL CO.** distributed ONLY by

See Your National Tool Co. Representative or Local Jobber
NATIONAL TOOL CO.
11210 Madison Avenue Cleveland 2, Ohio

Write for **FREE** descriptive folder

▲ For more details circle **NED-139 L3** on enclosed inquiry slip ▲



no service schedules needed for *LIFE-LUBE* bearing units

Wood's pre-lubricated Pillow Blocks and Flange units give you trouble-free operation *for life*. Scientifically designed to provide permanent lubrication . . . means no lubrication is necessary once they leave our factory.

Neoprene seal keeps grease in, foreign matter out. Install Life-Lube and tear-up bearing service schedules. Sizes from ½" to 2 15/16". Wood's bearings for all operating conditions are available through Industrial Distributors. Write for Bulletin 194.

T. B. Wood's SONS COMPANY
CHAMBERSBURG, PA.
Mechanical Power Transmission Manufacturers—Since 1857.
CAMBRIDGE, MASS. • NEWARK, N.J. • DALLAS, TEXAS • CLEVELAND, O.

▲ For more details circle **NED-140 L3** on enclosed inquiry slip ▲

THE HAMILTON
PORTELVATOR®
(Portable Elevating Table)

MAKES IT *Easy* TO LIFT • LOWER LEVEL • TRANSPORT LOADS UP TO 5,000 lbs.

3 TABLE SURFACES
Can be worked at from **ALL 4 SIDES**

Slow or fast lift.

Self locking at any height.

4 POINT SUPPORT
(table can't tip)

Lift mechanism can be operated from either end.

Turns easily on anti-friction casters. Positive floor lock.

WELDED CONSTRUCTION

STYLE "A" (Illustrated)*
Max. Height 40" Min. Height 25" Length 33" Width 21" Weight 225 lbs.
Capacity 2,000 lbs. (plus safety factor)

*THREE STANDARD MODELS TO CHOOSE FROM

GET THE DETAILS • WRITE FOR BULLETIN P-5248

THE *Hamilton* TOOL COMPANY
901 HANOVER STREET • HAMILTON, OHIO • U • S • A

▲ For more details circle **NED-141 L3** on enclosed inquiry slip ▲

HOW TO SPEED Drum Handling and Save Money

Exclusive! American Drum and Barrel Cradles are designed for one-man handling.

Exclusive! American's disappearing patented loading bar adds speed and safety.

Exclusive! American's Semi-knocked-down packaged units save shipping costs and warehouse space.

Clip coupon and mail today.

THE AMERICAN PULLEY COMPANY
4294 Wissahickon Ave, Phila. 29, Pa.

Complete line of Pressed-Steel Hand Trucks
●
Steelite® Industrial Wheels
●
Drum King Hand Truck

Gentlemen:
Please send me more information on American Drum and Barrel Cradles.
Name _____
Firm Name _____
Address _____
City _____ Zone _____ State _____

▲ For more details circle **NED-142 L3** on enclosed inquiry slip ▲

PAGE FENCE - Since 1883

• AMERICA'S FIRST WIRE FENCE •

Don't **blame** yourself for costly loss or property damage caused by lack of property protection. Install sturdy Page Chain Link Fence. It has been providing security against possible disruption of business, vandalism, or many other losses or injuries for more than 60 years. Page Fence is available in heavily galvanized Copper-Bearing Steel, Stainless Steel or corrosion-resisting Aluminum. NOW is the time to consult the skilled Page Fence erecting firm nearest you. For name and address and helpful illustrated fence data...

***Write** to PAGE FENCE ASSOCIATION in Monessen, Pa., Atlanta, Bridgeport, Chicago, Denver, Detroit, Los Angeles, Philadelphia, New York or San Francisco.*

PRODUCT OF PAGE STEEL & WIRE DIVISION OF AMERICAN CHAIN & CABLE COMPANY, INC.

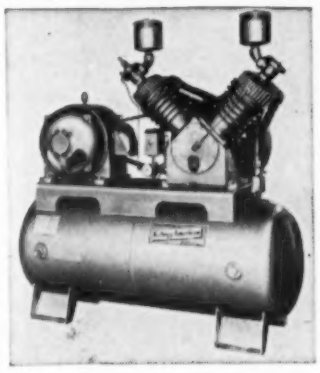
▲ For more details circle **NED-143 L3** on enclosed inquiry slip ▲

MAGNETIC FLOOR CLEANER
adjusts to 1, 1½ or 2 in. from floor

Versatile magnetic cleaner, the Super-Sweeper, effectively removes tramp iron from highways, parking lots, factory aisles and other areas. It can be pushed by hand, pulled by jeep or attached to lift truck after removal of wheels and handle. Unit is easily adjusted to heights of 1, 1½ or 2 in. Magnets are enclosed in square aluminum housing large enough to allow making sweeper in three strengths and widths of 24, 36, 48 and 60 in. To clean, canvas-reinforced rubber cover, utilizing two built-in steel rods held in place by magnets, is simply stripped off magnetic element. Wheels have punctureproof 8.00 x 2-in. tires. Heavy-duty sweepers will operate efficiently at up to 10 mph. Made by **Eriez Mfg. Co.**, 1325 E. Twelfth St., Erie, Pa.

▲ For more details circle **NED-146 L3** on enclosed inquiry slip ▲

AIR COMPRESSORS
15 and 20 hp, up to 105.9 cfm



Fifteen and 20-hp air compressors have been added to the Kellogg line. They are of V-type construction and are available in 22 different models for a wide variety of applications. Displacements vary between 83.5 and 105.9 cfm and delivery pressures are 100 and 175 psi. Model BD461A, the tank mounted unit illustrated, features dual controls which permit either automatic stop-start operation for intermittent use or automatic intake unloader operation for use where air demand is constant. Made by **American Brake Shoe Co.**, Kellogg Div., Dept. IND, 97 Humboldt St., Rochester 9, N. Y.

▲ For more details circle **NED-147 L3** on enclosed inquiry slip ▲

Floor Finishes

Multi-Clean Products, Inc.—Quick indication of the various treatments recommended or not recommended for a dozen or more types of floors is provided by this reference chart. It gives coverage specifications and other data on 15 Multi-Clean floor finishes. Combinations of liquids that can be used, number of applications and data on procedures are pointed out. Chart is 11 x 28 in.

▲ For more details circle **NED-148 L3** on enclosed inquiry slip ▲

FOUR WAY ENTRY STEEL BOUND SKID BOXES

STORE LOOSE ITEMS EFFICIENTLY SAVING-FLOOR SPACE BY UTILIZING AIR SPACE

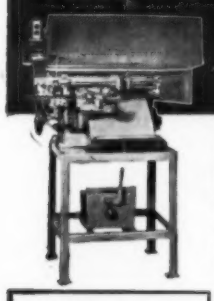
Available plain or with corner tiering pockets for stacking three or four units high. Rugged arc-welded under-frames. Corner angle rounded for safety.

THE LANHAM COMPANY, MAGNOLIA & 12TH STS., LOUISVILLE, KY.

LANHAM FOR LIFETIME

▲ For more details circle **NED-150 L3** on enclosed inquiry slip ▲

How to CUT AND STRIP INSULATED WIRE... as fast as 3,000 lengths per hour!



ARTOS *Automatic* MACHINES REDUCE TIME AND COST

For quantity production of finished wire leads ... measured, cut to length, and stripped at one or both ends... investigate Artos Automatic Machines.

The Model CS-6 illustrated can complete up to 3,000 pieces per hour in 15-in. lengths, and other lengths in proportion. You save through combined operations... through quick, easy set-up... through unskilled help who can handle this machine. You obtain substantial time savings over the best manual or semi-automatic methods.

Highly accurate machine operation reduces work spoilage to an absolute minimum—errors due to the human element are eliminated. There is no cutting of strands or nicking of solid wire. Uniform lengths and uniform stripping are produced consistently.

MODEL CS-6E CAPACITY

FINISHED PIECES PER HOUR —15 in. lengths, 3000 per hour; 97 in. lengths, 500 per hour.
MAXIMUM STRIPPING LENGTH—1½ in. at each end.
MAXIMUM CUTTING LENGTH—97 in.
MINIMUM CUTTING LENGTH —2 in. (⅞ in. special).
WIRE HANDLED—Solid or stranded single conductor wires, parallel cord, heater cord, service cord, etc.
MAXIMUM WIRE SIZE—No. 10 stranded or No. 12 solid.

WRITE FOR BULLETIN

Get the complete story—write now for Bulletin 35-C on Artos Model CS-6 machines.

Automatic Wire Cutting and Stripping

ARTOS ENGINEERING CO.

2751 S. 28th St. • Milwaukee 46, Wis.

▲ For more details circle **NED-144 L3** on enclosed inquiry slip ▲

TEMPILSTIKS°

the amazing Crayons that tell temperatures

in
WELDING
FLAME-CUTTING
TEMPERING
FORGING
CASTING
MOLDING
DRAWING
STRAIGHTENING
HEAT-TREATING
IN GENERAL

$2 each

gives up to 2000 readings

it's this simple:
- Select the **Tempilstik°** for your working temperature.
- Mark your workpiece with it.
- The **Tempilstik°** will leave a liquid mark as soon as its specified temperature is reached.

Available in these temperatures (°F)

113	213	313	450	850	1250	1650
125	225	325	500	900	1300	1700
138	238	338	550	950	1350	1750
150	250	350	600	1000	1400	1800
163	263	363	650	1050	1450	1850
175	275	375	700	1100	1500	1900
188	288	388	750	1150	1550	1950
200	300	400	800	1200	1600	2000

Also available in pellet and liquid form.

TEMPIL CORPORATION
11 West 25th St., New York 10, N. Y.

FREE—Tempil° "Basic Guide to Ferrous Metallurgy" —16¼" by 21" plastic-laminated wall chart in color. Send for sample pellets, stating temperature of interest to you.

NAME _____
COMPANY _____
ADDRESS _____

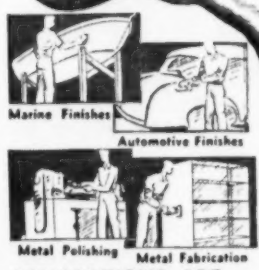
▲ For more details circle **NED-145 L3** on enclosed inquiry slip ▲

GRITCLOTH

OPEN MESH SANDING FABRIC

PATENT APPLIED FOR

REVOLUTIONARY DISCOVERY... "HEARD 'ROUND THE WORLD"!



10 to 15 TIMES LONGER LIFE than the conventional types of coated abrasives.

NON-LOADING . . OPEN MESH LETS THE REMOVED PARTICLES FLOW RIGHT THROUGH. THOUSANDS OF SUPER-SHARP EDGES KEEP ON CUTTING

APPLICATIONS ARE LIMITLESS . . . each day finds a new successful operation for this Miracle Modern Sanding Fabric.

- USE WET OR DRY
- FLAT OR FOLDED
- BY MACHINE OR HAND
- BOTH SIDES

BAY STATE

Bay State Abrasive Products Co.
Westboro, Massachusetts

Branch Offices and Warehouses — Chicago, Cleveland, Detroit, Pittsburgh
Distributors — All Principal Cities
In Canada: Bay State Abrasive Products Co. (Canada) Ltd., Brantford, Ontario

GRITCLOTH... a BAY STATE Pioneered Product

▲ For more details circle **NED-149 L3** on enclosed inquiry slip ▲

the "6" Lewis PLASTICS INJECTION MOLDING MACHINE

GREATER CAPACITY

The Model "6" is capable of repeatedly molding 7-ounce shots of polystyrene at the rate of 2½ per minute. Heating cylinder will plasticize up to 60 pounds per hour.

HIGH SPEED

The exclusive new LEWIS "HYDRA-LOCK" clamping device develops a 200-ton clamping pressure in tenths of a second . . . permits quicker, easier mold setting procedures. Large platens . . . compensating feed . . . automatic molding cycle assure high speed production at all times. Fast opening die-lock mechanism permits jammed nozzles to be cleared in 20 seconds or less.

MAXIMUM ECONOMY

The Model "6" can produce large projected area parts formerly impossible on machines of comparable size . . . the work of considerably larger units is accomplished at a fraction of their initial and normal operating costs. All features of the LEWIS "6" are standard equipment... included in one remarkably low price.

POSITIVE SAFETY

Combining the fast closing action of a toggle mechanism with a large-diameter short-stroke hydraulic cylinder, LEWIS engineers have developed the safest, most powerful mold clamping device available today. Over-center position of toggle mechanism, safety interlocks on gate and emergency stop assure maximum safety for operator.

1545-LW

LEWIS

Write for Bulletin 102 for Complete Details

THE LEWIS WELDING & ENGINEERING CORPORATION

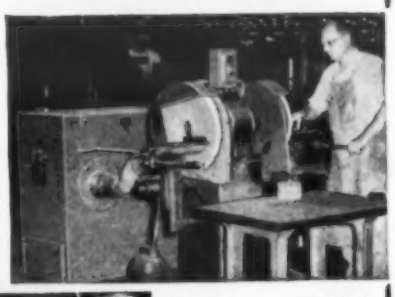
14 INTERSTATE STREET • BEDFORD, OHIO

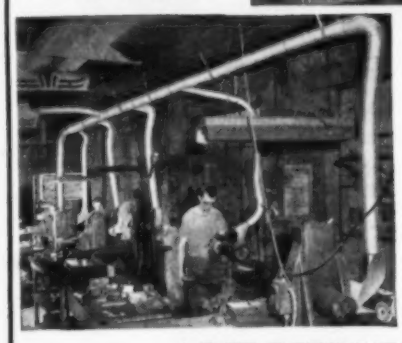
▲ For more details circle **NED-151 L3** on enclosed inquiry slip ▲

STOP DUST
INSTANTLY WITH DUSTKOP

300 cfm to 10,000 cfm standard pre-tested units available in stock

- LOW COST
- IMMEDIATE INSTALLATION
- SAVES HEAT
- PORTABLE





2405 ◀ cfm 1400▲ cfm

DUSTKOP

WRITE FOR

- RECOMMENDATION about your dust problem. No obligation
- CATALOG 605-2

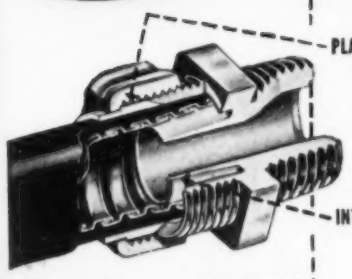
AGET-DETROIT CO.
202 S. Main St. Ann Arbor, Mich.

▲ For more details circle NED-152 L3 on enclosed inquiry slip ▲

NEW

T&B ENGINEERED

CONNECTORS FOR LIQUID-TIGHT FLEXIBLE METAL CONDUIT



PLASTIC GRIPPING RING
- Seals out all moisture, oil, and corrosive fluids.
- Protects plastic conduit sheath against damage.
- Gives visual installed assurance of a proper ground.
- Color-coded for each conduit size.

INTEGRAL TAPERED BODY WEDGE
- Positively grounds metal spiral inside conduit.
- Fits all thicknesses and convolutions in standard Liquid-Tight Flexible Metal Conduit.
- Grounding member integral with body.

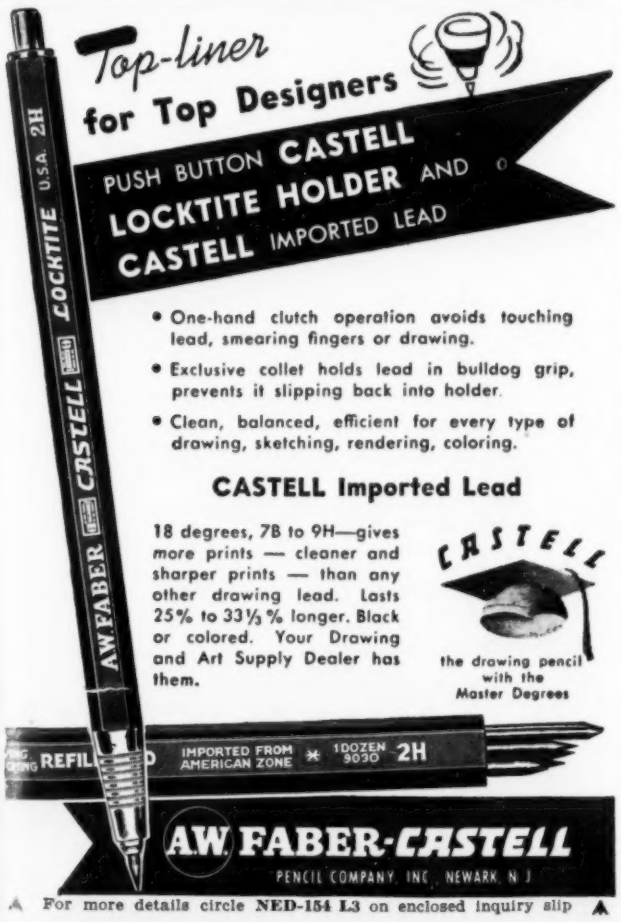
Self-grounding . . . no complicated assemblies. Conduit slides straight into complete connector—no need to disassemble connector. Same wrench fits both body and gland nut. For conduit from 3/8" to 2". Straight connectors, 45° and 90° elbows available. Write for folder. T323

THE THOMAS & BETTS CO.
INCORPORATED
24 Butler Street, Elizabeth 1, New Jersey
Thomas & Betts Ltd., Montreal, P.Q., Canada

▲ For more details circle NED-153 L3 on enclosed inquiry slip ▲

Top-liner for Top Designers

PUSH BUTTON CASTELL LOCKTITE HOLDER AND CASTELL IMPORTED LEAD



- One-hand clutch operation avoids touching lead, smearing fingers or drawing.
- Exclusive collet holds lead in bulldog grip, prevents it slipping back into holder.
- Clean, balanced, efficient for every type of drawing, sketching, rendering, coloring.

CASTELL Imported Lead

18 degrees, 7B to 9H—gives more prints — cleaner and sharper prints — than any other drawing lead. Lasts 25% to 33⅓% longer. Black or colored. Your Drawing and Art Supply Dealer has them.

CASTELL

the drawing pencil with the Master Degrees

A.W. FABER-CASTELL
PENCIL COMPANY, INC., NEWARK, N.J.

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PORTABLE MIXERS
direct and gear driven types

Sizes in line of portable process mixers range from ¼ to 3 hp with choice of 1750, 1150 and 420 rpm in direct and gear driven models. Gears of slow speed units are oil lubricated and integral with the motor. A mechanical seal eliminates oil leakage. Agitator shaft bearings are prelubricated and sealed for life. Full swivel clamp is of high tensile aluminum alloy. Line of mounting accessories for shaft and propeller assemblies is available. Made by **Chemineer, Inc.**, Dept. N, 511 W. Second St., Dayton 2, O.

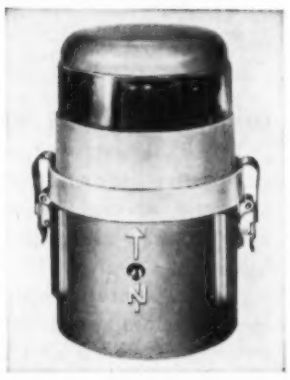
▲ For more details circle NED-155 L3 on enclosed inquiry slip ▲

MAGNETIC AMPLIFIER
operates in wide temperature range

Stable push-pull magnetic amplifier has practically zero drift and an input impedance of 5, 25, 50 and 100 ohms. Signals of 0 to 20 millivolts dc produce a linear output from 0 to 10 milliamps dc into a load of 100 ohms. Operation is over temperature range from −50° C to 70° C. The 60-cps model measures 2 x 2 x 2½ in., and 400-cps model is 1½ x 1½ x 2 in. Model number is M-22. Made by **Magnetic Controls, Inc.**, 119 W. 63rd St., New York 23, N. Y.

▲ For more details circle NED-156 L3 on enclosed inquiry slip ▲

PHOTOELECTRIC CONTROL
for outdoor lighting applications



Automatic control of lighting in factory yards, storage areas, shipping docks and parking lots is possible with the 575-w photoelectric control. Compact and lightweight series 64400 control is inexpensive enough to make it economically feasible to use one control per lamp. Accessories are available for mounting on luminaire, wood pole or cross arm, standard or other locations. It functions regardless of time of day or weather conditions. Made by **Fisher-Pierce Co.**, 44 Pearl St., Boston 85, Mass.

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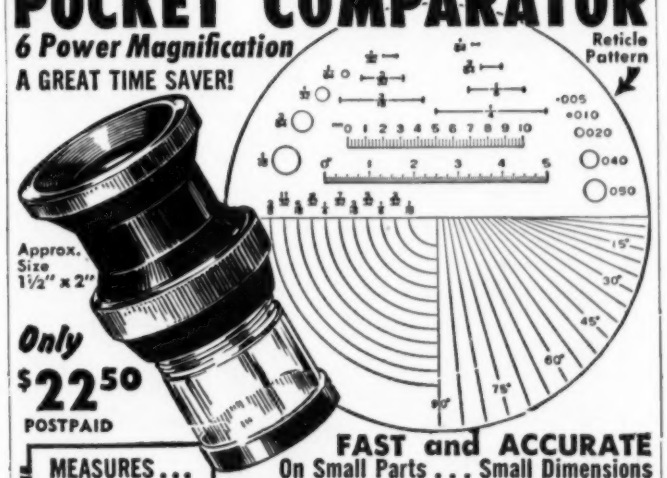
CHECK, MEASURE, INSPECT with this HANDY

POCKET COMPARATOR

6 Power Magnification

A GREAT TIME SAVER!



Only $22.50 POSTPAID

MEASURES...
- ANGLES
- RADII
- CIRCLES
- LINEAR DIMENSIONS in both decimal inches and millimeters

FAST and ACCURATE
On Small Parts . . . Small Dimensions

First time available at such low price! EDSCORP POCKET COMPARATOR. Fine, imported measuring magnifier—for fast, accurate inspection of intricate parts without expensive equipment. Used to check layouts, machining on tools, dies, gauges—to check threads, chamfers, small holes. In optical work for checking flaws such as bubbles, seeds, scratches, pits and digs. For scientists—in determining width of spectrograph lines. This instrument comes in protective leather case. We guarantee complete satisfaction or your money back.

WE'LL SHIP ON 10-DAY TRIAL OFFER *Attach Coupon to Company Letterhead*

EDMUND SCIENTIFIC CORP., 306 E. Gloucester Pike, Barrington, N. J.
Please ship EDSCORP Pocket Comparator Stock No. 30,061-AE on 10-day Trial Offer
☐ Check is enclosed in amount $22.50. ☐ Bill on open account.
Name .....
Company .....
Address .....
City ..... Zone ..... State .....

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Speed Up Material Handling

Here's a handy, mobile crane for lifting or loading jobs around your plant. Ideal for dismantling, moving or erecting machinery . . . loading and unloading structural iron, pipe, bars, lumber and equipment of all types. The UNIT 357 is self-propelled . . . rides on rubber at road travel speed . . . is easy to maneuver even in cramped yard conditions. Operated by ONE man . . . powered by ONE engine . . . swings in a 360° circle. Full vision cab gives complete visibility. Promotes Safety. Write for Catalog.

UNIT CRANE & SHOVEL CORP.
6607 W. Burnham Street, Milwaukee 14, Wis., U. S. A.

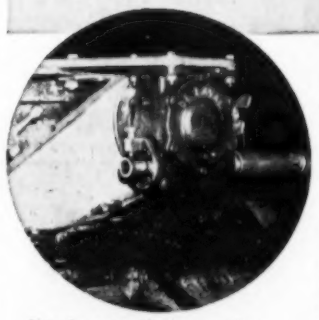
UNIT

CRANES • CLAMSHELLS • MAGNETS

▲ For more details circle NED-159 L3 on enclosed inquiry slip ▲

DE LAVAL
SPEED REDUCERS

from dwarf to giant size



Here's one of the smaller De Laval worm gear speed reducers with a 3" center distance being used for a new coal drilling machine.

Pair of giant 36-inch center distance speed reducers designed and built by De Laval for slab transfers in a slabbing-blooming mill. These slab transfers are used to convey steel slabs up to 12 in. thick and 42 in. wide, weighing over 55,000 lb. The De Laval worm gear units, with a reduction ratio of 26⅔ to 1 in a single set of gearing, are each driven by a 200 hp, 410 rpm motor coupled directly to the input shafts of the slab transfers.

De Laval heavy-duty worm gear speed reducers seldom require attention under the most rugged operating conditions. They make a quiet, close-couple compact drive. They permit high ratio reductions in a minimum of space and withstand severe shock loads without damage. De Laval builds all sizes from 3" to 36" center distances for transmission ratios of 3.1:1 to 100:1 in single reduction units and ratios of 50:1 to 8000:1 in double reduction units. Whether you need dwarf or giant worm gearing, consult De Laval for engineering assistance. *Send for De Laval Manuals G-WBV and G-WWH containing data on single and double reduction units.*

DE LAVAL *Speed Reducers*

DE LAVAL STEAM TURBINE COMPANY
808 Nottingham Way, Trenton 2, New Jersey

DL 210A

▲ For more details circle NED-160 L3 on enclosed inquiry slip ▲

Tough Babies!

THEY DEFY ROUGH HANDLING!

LOWER COST Material Handling favors these rugged items! Mill-box above features steel compound Top rail (see inset) and Bulge corners, both extraordinary wear-resisting. Note slat reinforcing and non-jamming "nesting limits"

BOTH BUILT BY "BAL" BUILT WITH A CONSCIENCE FOR MATERIAL HANDLING

Nesting tote boxes at right, also built with handles and strongly reinforced all-fibre; hard, vulcanized for severe usage.

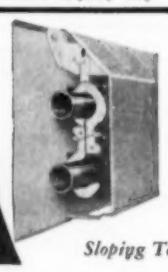
ALSO HARD VULCANIZED FIBRE TRUCKS, DRUMS, SPECIAL CASES.

• *Write for Catalog!*

WILLIAM BAL CORPORATION
11 Johnson St. Newark 5, N. J.

For more details circle NED-161 L3 on enclosed inquiry slip

DUNHAM FIN-VECTOR RADIATION



Sloping Top

LIGHT WEIGHT, LOW COST, EASY TO INSTALL AT ANY HEIGHT

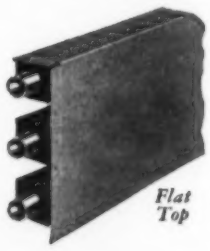
Expanded Metal Cover

You can put versatile, lightweight Dunham Fin-Vector® *at any height* along outside walls—or overhead—and heat for less.

Three attractive cover designs. Exclusive adjustable hook-and-link hanger simplifies installation.

Offset flange on cover sections assures single-line joint. Full line of accessories.

Made in lengths from 2 ft. to 10 ft., in 6-in. increments.



Flat Top

For full information, WRITE FOR BULLETIN NED-11.

DUNHAM HEATING SYSTEMS AND EQUIPMENT
Quality First for Fifty Years

C. A. DUNHAM COMPANY, 400 W. Madison St., Chicago 6, Illinois

For more details circle NED-162 L3 on enclosed inquiry slip

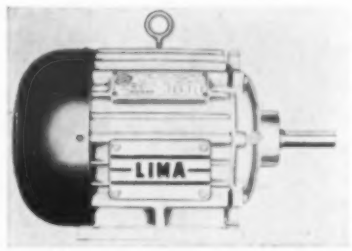
Actually a handy, 48-page manual for your desk or file. Describes and diagrams Titeflex® Seamed and Uniflex Seamless Metal Hose, standard and special fittings, couplings, typical assemblies—with tabulated specifications for easy ordering. Engineering data include working pressures, flow rates, frictional losses, how to install and care for flexible metal hose. Send coupon for your copy. No obligation.

Titeflex

TITEFLEX, INC.
507 Frelinghuysen Avenue, Newark 5, N. J.
Please send me your new Titeflex Flexible Metal Hose Catalog No. 200.
Name
Title
Company
Address
City Zone State

For more details circle NED-163 L3 on enclosed inquiry slip

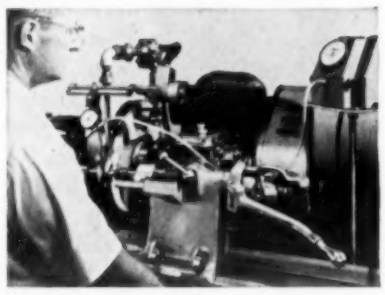
TOTALLY-ENCLOSED MOTORS
fan-cooled types rated ¾ to 20 hp



High velocity movement of air over the deep, integrally cast fins of type E totally-enclosed, fan - cooled motors does not permit dust, dirt or other foreign matter to accumulate on the motor frame. Motors are made in ratings of ¾ hp at 900 rpm to 20 hp at 3600 rpm in NEMA frame sizes 224 to 326 inclusive. Additional features are rigid cast iron frames with integral feet, double-width prelubricated sealed ball bearings, cast aluminum fan and availability for vertical, wall, ceiling or horizontal mounting. Two or three-phase motors are offered in all standard frequencies and commercial voltages below 600 v. Made by **Lima Electric Motor Co.,** Dept. 78, 301 Findlay Rd., Lima, O.

For more details circle NED-164 L3 on enclosed inquiry slip

GRINDING GAGE
for production cylindrical grinding



A combination of the Federal Dimensionair and the Arnold gage, model A-77 Arnoldair cylindrical grinding gage permits quantity production with all parts within 0.0001-in. tolerance of each other. Adaptation of the Dimensionair in this manner is reported to eliminate unsteadiness of the gage needle due to work surface roughness, and to enable the operator to take the finish cut with complete confidence and accuracy. Where a large amount of stock is left for finish grind, operator has ample time to adjust the infeed rate to approach the final size. Made by **Federal Products Corp.,** 1118NR1 Eddy St., Providence 1, R. I.

For more details circle NED-165 L3 on enclosed inquiry slip

Drills, Reamers & Bits

In 152 illustrated pages, catalog No. 51 provides exhaustive information on a complete line of standard and special drills, reamers, bits, counterbores, countersinks and similar tools. The catalog is full indexed, and in addition to complete standard ordering data contains valuable technical information on the care and use of the various tools. Decimal equivalents, feed and speeds, and other similar data are tabulated. Write on company letterhead to United Drill & Tool Corp., Chicago-Latrobe Div., 413 W. Ontario St., Chicago 10, Ill.

For more details circle NED-166 L3 on enclosed inquiry slip

ROLLWAY® BASKET STACKS

ROLL DOWN COSTS

NOW

READY IN STANDARD STOCK SIZES

LOW IN PRICE

Selection of 6 standard basket sizes and 3 dollie sizes assures the right Roll-Way to cut your handling costs.

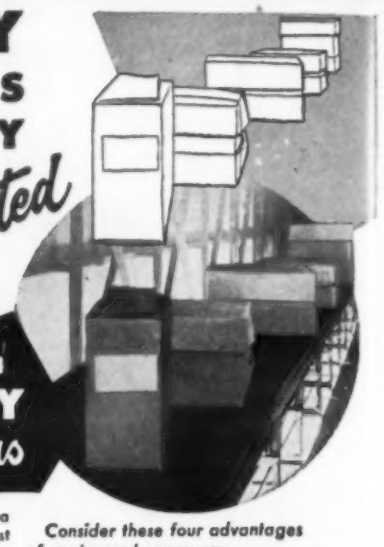
GET THE FACTS NOW

Write for specifications and price list—no obligation.

HOFFMAN COMPANY
2588 W. PHILA. ST., YORK, PA.

For more details circle NED-167 L3 on enclosed inquiry slip

HEAVY PACKAGES ARE EASILY *Transported* ON ALVEY *Conveyors*



Everytime you MANhandle a package, you add to the cost and nothing to the value; therefore, it will pay you to put your packages on Alvey Conveyors that are engineered to your requirements.

Consider these four advantages of engineered conveyors:

1. Lower the expense of handling in receiving and storing.
2. Synchronize delivery of production materials and parts.
3. Facilitate preparation of the products for shipping.
4. Modernize the shipping dock.

Ask an Alvey engineer to visit your plant to help determine how conveyors can save money and increase production. Write for an appointment.

ALVEY CONVEYOR MANUFACTURING COMPANY
120A ALVEY
9259 Olive Street Road • Saint Louis 24, Missouri

For more details circle NED-168 L3 on enclosed inquiry slip

for jobs where you "can't take chances"...

SNAP-LOCK TRADE MARK

again proved dependable for controlling repetitive cycles at 60 passes per minute

This Zagar acoustical wall tile drilling machine employs 5 Snap-Lock limit switches—three automatically controlling movements of the 96 spindle drill head and two actuating the hydraulic system operating the work table.

Zagar Tool Inc., Cleveland, O., manufactures drill heads, drilling and broaching machines. After 10 years experience with Namco Snap-Lock limit switches applied to a wide variety of large and small machine tools, Mr. Frank Zagar, General Manager states—

"for the fast, exacting and dependable controls in our machines, we can take no chances—we recommend Snap-Locks to customers all over the country."

This confidence is typical of expressions from machine tool builders, 90% of whom have adopted Snap-Locks as standard built-in equipment—some using more than 200 units on a single installation.

You can depend on Snap-Lock—Ask your Engineers to contact ours. Specifications Bulletin EM-51.

Heavy Duty Features of SNAP-LOCK Limit Switches
built BY machine tool builders FOR machine tool builders

- Separate safety walled enclosures for electrical and mechanical sides.
- Hardened steel parts, rugged, compact.
- Heavy insulation, oil and dust resistant case.
- Positive lock in "on" and "off" positions.
- Single pole normally open and closed, double break contact arrangements.
- Self wiping coin silver contacts.
- Wide variety of standard mountings and operating levers.

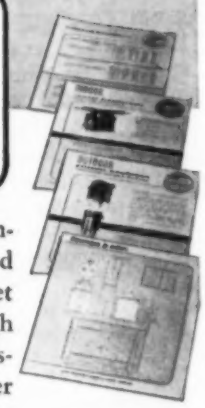
ELECTRICAL MANUFACTURING DIVISION
The NATIONAL ACME CO.
182 EAST 131 STREET, CLEVELAND 8, OHIO

Acme-Gridley Bar and Chucking Automatics: 1-4-6 and 8 Spindle • Hydraulic Thread Rolling Machines • Automatic Threading Dies and Taps • Limit, Motor Starter and Control Station Switches • Solenoids • Contract Manufacturing

For more details circle NED-169 L3 on enclosed inquiry slip

NEW
DIMENSION SHEETS
Give Complete Information

ALLIS-CHALMERS
INSTRUMENT TRANSFORMERS



Just off the press — all the mechanical and electrical information you need in a convenient, completely bound set of data sheets. Gives most thorough presentation of entire line of Allis-Chalmers instrument transformers ever published. Get your copy from your nearest A-C district office or write:

A-4113

Allis-Chalmers, Milwaukee 1, Wis.

ALLIS-CHALMERS

▲ For more details circle **NED-170 L3** on enclosed inquiry slip ▲

For lab melts, pilot plant and small production . . .

The PT POT TILTING Furnace

This Detroit Electric Furnace has been specially developed to produce small melts of any metal with ease, economy and speed. 15-pound capacity pot can be used as a crucible or tilted to pour directly into molds. Roof lifts and swings for easy loading. Complete with controls. Full information on request.

WRITE FOR DETAILS

DETROIT ELECTRIC FURNACE DIVISION
KUHLMAN ELECTRIC COMPANY
1060 26th St. • BAY CITY, MICHIGAN

▲ For more details circle **NED-171 L3** on enclosed inquiry slip ▲

POTDEVIN COATING MACHINES

60 years of dependable service

Illustrated is Model 46R for applying various types of coating materials.

There is a POTDEVIN for a tremendous variety of coating jobs . . . from 6 inch wide label pasters to large 46 inch coating machines for mass production. Wider machines available for sheet or roll coating.

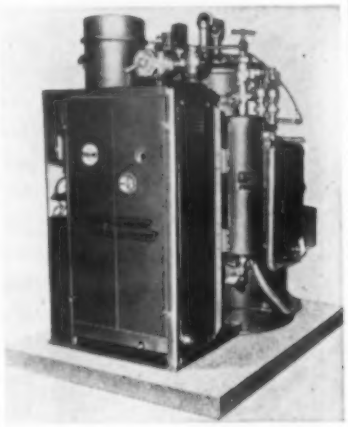
Such coating materials as hot or cold glues, latex, resins, paint, varnish and lacquer, as well as many of the new type coating materials work with equal efficiency. The amount of coating is accurately controlled. No skilled help needed to operate a POTDEVIN. Write for full particulars. Our engineers are always ready to help you solve any coating problem.

POTDEVIN MACHINE CO.
273 North Street, Teterboro, N. J.

Designers and manufacturers of equipment for Bag Making, Printing, Coating, Laminating, Gluing and Labeling.

▲ For more details circle **NED-172 L3** on enclosed inquiry slip ▲

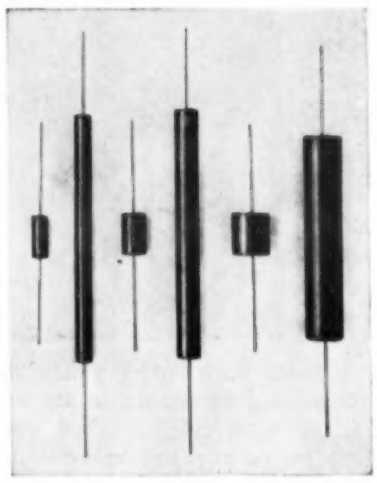
STEAM GENERATOR
burns natural gas and fuel oil



Changeover from oil to natural gas fuel can be made in the Vapor-Clarkson model OKJ-4740 steam generator by flipping one switch and without interrupting steam output. Fuel oil spray nozzle is incorporated into the metal body of the gas burner. Generator develops full working steam pressure up to 300 psi in less than 3 minutes from cold water and makes 1500 to 5000 lb of steam per hour. Once started by turning one switch, automatic controls modulate steam output to meet changing demand. Pressure can be varied from 10 to 300 lb. Packaged generator can be picked up and moved by a fork lift truck. Weight is 6000 lb. Made by **Vapor Heating Corp.**, Dept. PR, 80 E. Jackson Blvd., Chicago 4, Ill.

▲ For more details circle **NED-173 L3** on enclosed inquiry slip ▲

SELENIUM RECTIFIERS
line of high voltage models

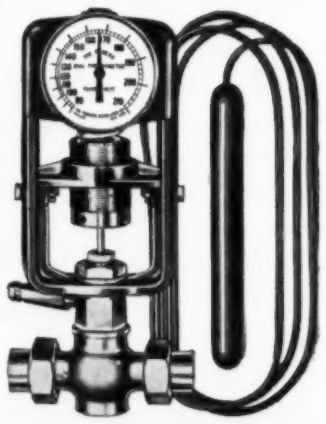


Line of SE7 high voltage selenium rectifiers has plates which are produced on multiple tools. Units are completely enclosed in a phenolic tube with an internal spring closure. Ratings are up to 6000 v peak inverse. Individual models range from 200 microamperes dc to 12.5 milliamperes dc. Diameters range from ¼ to ⅝-in. and lengths from ⅝ to 5¼ in. Made by **Bradley Laboratories, Inc.**, Dept. A, 82 Meadow St., New Haven 10, Conn.

▲ For more details circle **NED-174 L3** on enclosed inquiry slip ▲

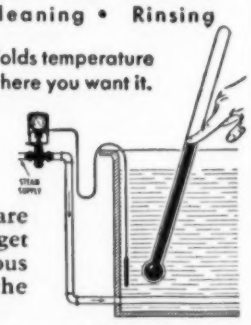
DO YOU KNOW? Facilities to build miniature or working models of any size from transparent or colored plastic are available to industry. New service will produce models to show inside or working mechanisms for display, sales training or demonstration purposes. Offered by Fabricated Plastics, P. O. Box 928, Butler, Pa.

▲ For more details circle **NED-175 L3** on enclosed inquiry slip ▲



NEW
POWERS
REGULATOR
For
Plating • Anodizing
Bonderizing • Pickling
Cleaning • Rinsing

Holds temperature where you want it.



Saves LABOR and Steam
Helps Eliminate Costly Rejects

Powers No. 11-MF Regulators are self-operating. They will help you get the most effective use from various solutions by holding them at the right temperature automatically.

Plastic Covered Thermal Bulb and Tubing—is highly resistant to solutions in above processes. Prevents electrical shorts. No insulators required for the regulator.

Easy to Read 4" Dial Thermometer—indicates temperature of liquid being controlled and makes it easy to adjust regulator for different temperatures.

Bulletin 330 describes this simple, dependable control. May we send you a copy? (b31)

THE POWERS REGULATOR CO., SKOKIE, ILL.
Offices in over 50 Cities, see your Phone Book • Established in 1891

▲ For more details circle **NED-176 L3** on enclosed inquiry slip ▲

parts like these

Indicating pointer — 3D2 aluminum to 24S-T.

are easy to weld with

Self threading needle — full-tempered steel.

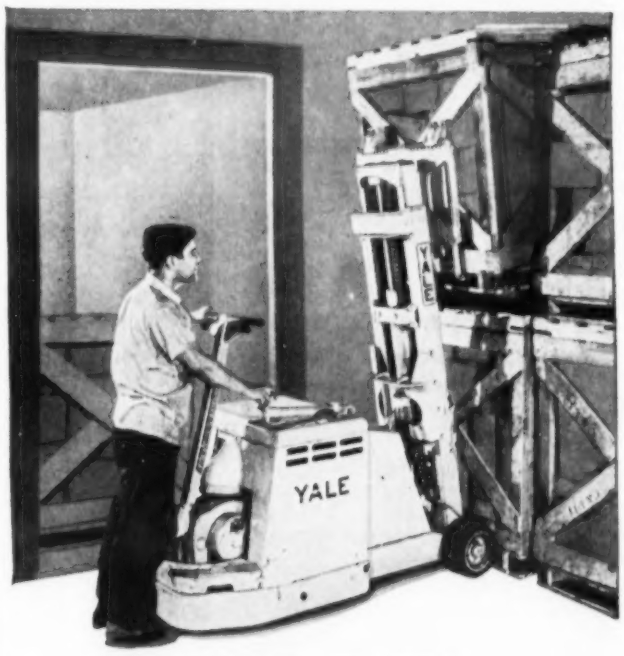
RAYTHEON WELDPOWER®

The delicate job of joining two parts of a tempered steel self-threading sewing needle — or positioning the indicating pointer to its hub — is no trouble at all for a Raytheon Weldpower Unit. Operators can be trained in a matter of hours to turn out strong, clean welds — even on difficult or "impossible" jobs — on a production basis. Find out about this new, economical method of joining ferrous, non-ferrous or dissimilar metals. Send samples or write for details. Address Dept. 6270 NE-11.

Raytheon Condenser Weldpower Control Units are available in three sizes and with appropriate Weldpower Heads.

RAYTHEON
Excellence in Electronics
RAYTHEON MANUFACTURING COMPANY
Equipment Sales Division, Waltham 54, Mass.
DISTRICT OFFICES: Boston • New York • Cleveland • Chicago
New Orleans • Los Angeles (Wilmington) • San Francisco • Seattle
INTERNATIONAL DIVISION, 19 RECTOR STREET, NEW YORK CITY

▲ For more details circle **NED-177 L3** on enclosed inquiry slip ▲



YALE WORKSAVERS

give big truck power... where big trucks can't go

• Where size and weight rule out big trucks, YALE WORKSAVER ELECTRIC TRUCKS take over. Yes, YALE WORKSAVERS save industry time, manpower and money where low-load capacity flooring, unreinforced elevators and ramps had previously restricted materials handling operations to back-breaking manual moving, lifting and stacking.

YALE WORKSAVERS give big truck advantages...big truck versatility . . . at small truck cost! Features include forward and reverse power travel—hydraulic lift—complete range of use-extending attachments. Contact your local Yale Representative for a demonstration of the WORKSAVER line in your own plant . . . at your own time.

YALE*
*Registered trade mark

MATERIALS HANDLING EQUIPMENT

MAIL THIS COUPON TODAY

The YALE & TOWNE Manufacturing Co., Dept. 3711
Roosevelt Blvd. and Haldeman Ave., Phila. 15, Pa.
Please have your local representative call for an appointment.

Company_____
Name_____ Title_____
Street_____ City_____ State_____

In Canada write: The Yale & Towne Mfg. Co., Box 337—Postal Station "A," Toronto

Gas, Electric, Diesel Lift Trucks • Worksavers • Hand Trucks • Hand and Electric Hoists • Pul-Lifts

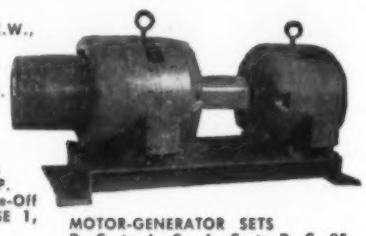
▲ For more details circle **NED-178 L3** on enclosed inquiry slip ▲

...FOR A JOB WELL DONE!

KATO ENGINEERED ELECTRICAL EQUIPMENT

KATO ENGINEERING has been building Special Electrical Equipment and Machinery since 1928. Our modern, well equipped plant produces the finest in generators and electrical machinery from the smallest to the largest. *We invite your inquiries on special requirements!*

A. C. GENERATORS
Sizes from 100 watts to 300 K.W., in one or two bearings. Speeds of 720—3600 R.P.M., 60 cycles. Also 15—800 cycles, single and three phase.
D. C. GENERATORS
Sizes ranging to 15 K.W.
ROTARY CONVERTERS
For Changing D.C. to A.C.
HIGH FREQUENCY CHANGERS
D. C. MOTORS up to 10 H. P.
D. C. MOTORS With A. C. Take-Off
A. C. MOTORS, SINGLE PHASE 1, 1½, 3 H.P.



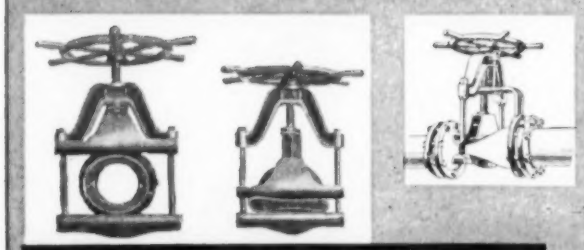
MOTOR-GENERATOR SETS
D. C. to A. C., A. C. to D. C. 25 cycles to 60 cycles, 60 to 400 cycles.

KATO *Engineering Company*

WRITE TODAY FOR INFORMATION!
1464 FIRST AVENUE MANKATO, MINNESOTA

▲ For more details circle NED-179 L3 on enclosed inquiry slip ▲

MASSCO-GRIGSBY RUBBER PINCH VALVES



FOR ABRASIVE AND CORROSIVE PULPS AND LIQUIDS

IT'S HINGED ... for longer wear.

MOLDED RUBBER *resists abrasion and corrosion* ... gives long life without maintenance.

UNOBSTRUCTED FLOW PASSAGE ... eliminates high friction loss.

SIZES 1" to 12"

WRITE FOR BULLETIN

The Mine & Smelter Supply Co.
DENVER 17, COLORADO
Salt Lake City, El Paso, 1745 Broadway, N. Y. C.
REPRESENTATIVES IN FOREIGN COUNTRIES

▲ For more details circle NED-180 L3 on enclosed inquiry slip ▲

Before You Buy New or Replacement

WHEELS

SEE

Buffalo

You can select from all types of wheels, in a complete range of sizes, to get the right wheel for the job. Designed and built to stand up under faster modern speeds and greater hauling distances. Before you buy any wheels, be sure to compare the selection and values offered by BUFFALO.

BUFFALO CASTER & WHEEL CORP.
1032 Broadway, Hamilton, Illinois

SEND COUPON FOR FREE CATALOG

Buffalo Caster & Wheel Corp., Dept. 13
1032 Broadway, Hamilton, Illinois
Without obligation please send me complete information about Buffalo Caster and Wheels.

NAME _____
FIRM _____
ADDRESS _____
CITY _____ STATE _____

▲ For more details circle NED-181 L3 on enclosed inquiry slip ▲

COATING-FEEDING MACHINE also deburrs edges of coiled stock

After automatically feeding coiled stock from the uncoiler, this coating machine deburrs the edges, coats both sides with drawing compound and feeds stock to the press. Circulating pumping unit with 5-gal sump tank supplies drawing compound to doctor and coating rolls. Calibrated hand wheels permit accurate control of thickness of application. Machine can be built to handle stock widths up to 60 in. and thicknesses from 0.005-in. up. Made by **Union Tool Corp.**, 222 E. Market St., Warsaw 30, Ind.

▲ For more details circle NED-182 L3 on enclosed inquiry slip ▲

MILLING ACCESSORIES make possible more diversified range of machining operations

Greater range of milling and machining operations on improved bench milling machines is possible with line of special accessories. Low spindle speed drive for slitting and straddle milling adds nine new speeds in range from 214 to 768 rpm to standard range from 1000 to 1725 rpm. Stub arbors take standard high speed steel or carbide slitting saws and cutters.

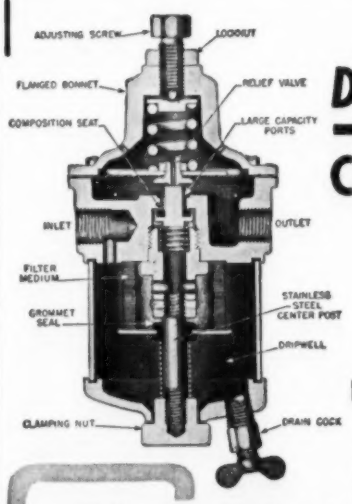
Top photo shows machine with cutter guard that follows the up-and-down head movement of the mill, 3¼-in. graduated swivel base vise and low speed pulley assembly. Belt guard for low speed pulley is shown below. Also available are 2-in. riser blocks with bolts to raise the column and head where special fixtures require. Made by **Barker Engineering Co.**, 501 Green Rd., Cleveland 21, O.

▲ For more details circle NED-183 L3 on enclosed inquiry slip ▲

Telephone Type Switches & Components

Automatic Electric Co.—General data and specifications on key switches, impulsing devices, switchboard lamps, jacks and caps and other control devices are in 28-page catalog 4018-D on telephone type components for industrial use. Specification tables, photos and diagrams are included.

▲ For more details circle NED-184 L3 on enclosed inquiry slip ▲



DOUBLE VALUE

CONO AIRPAK

—REGULATES

—FILTERS

IN A SINGLE UNIT

The advantages of a high quality large capacity reducing valve with safety relief, and an efficient air filter, are combined in a single compact unit. Save space and installation costs by eliminating the use of separate units. Pressure gauge can be mounted integrally. Construction is rugged, corrosive resistant and long lasting. Available in a variety of ranges and dripwell capacities for production equipment, instruments and controls, spraying equipment, and pneumatic gauges. Write for BULLETIN FH-15 to get full details.

CONOFLOW CORPORATION
2100 ARCH ST.
PHILADELPHIA 3, PA.

Cono-Controls

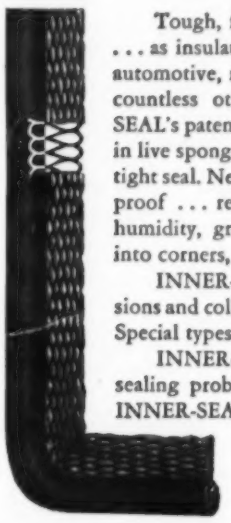
CC-116

▲ For more details circle NED-185 L3 on enclosed inquiry slip ▲

Bridgeport ***INNER-SEAL***

INDUSTRY'S MULTI-PURPOSE SEALING MATERIAL

Free folder, with engineering data and specifications, tells how industries use INNER-SEAL applications to eliminate sealing problems.



Tough, flexible INNER-SEAL has many uses ... as insulation, cushioning, gasketing ... in the automotive, railway and refrigeration fields, and in countless other fields of manufacture. INNER-SEAL's patented construction—spring steel molded in live sponge rubber—makes an effective, pressure-tight seal. Neoprene coated INNER-SEAL is waterproof ... resists temperature extremes, sunlight, humidity, grease, oil and abrasion. It fits snugly into corners, around curves—lasts for years.

INNER-SEAL is stocked in standard dimensions and colors. Heavy-duty type available in black. Special types or colors made to order.

INNER-SEAL is constantly solving all sorts of sealing problems. If *you* have one — why not try INNER-SEAL?

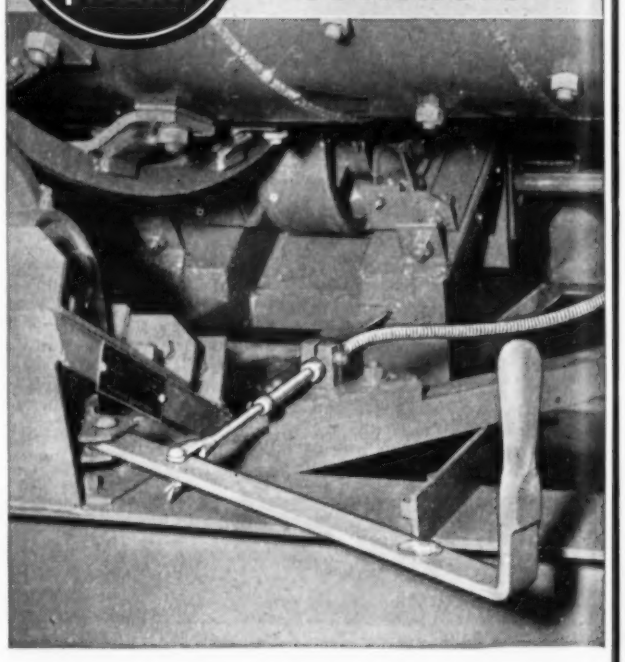
FREE SAMPLES
and complete information
WRITE TODAY

BRIDGEPORT FABRICS, INC., BRIDGEPORT 1, CONN.

▲ For more details circle NED-186 L3 on enclosed inquiry slip ▲

an ACCO product

TRU-LAY *PUSH-PULL* CONTROLS



Snake into Tight Spots

• The TRU-LAY Push-Pull Control illustrated above is on a No. 835 Barber-Greene hot mix dryer. The outside control lever is readily accessible and the PUSH-PULL snakes around obstructions into a tight spot where it engages a clutch.

Flexibility of TRU-LAY Push-Pulls makes them easy to install. This is but one of hundreds of examples of how TRU-LAY Push-Pulls can eliminate the time you would spend designing, making and installing complicated rigid parts. Push-Pulls are ruggedly built, carry their own lubrication and are sealed against dirt and moisture. Capacities up to 1000 pounds input.

If you have a problem in remote control, write our Detroit office today for a copy of DH-287

TRU-LAY *PUSH-PULL* CONTROLS

ACCO

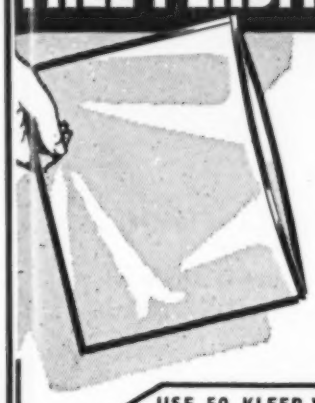
AUTOMOTIVE AND AIRCRAFT DIVISION
AMERICAN CHAIN & CABLE
601 Stephenson Bldg., Detroit 2
2475 Porter St., Los Angeles 21 • Bridgeport, Conn.

▲ For more details circle NED-187 L3 on enclosed inquiry slip ▲

WANTED

5000 MORE PLANT MANAGERS TO ASK FOR

FREE PLASTIC ENVELOPE



TO PROTECT JOB-TICKETS

Ask for your FREE plastic envelope that'll keep your work-records clean and readable . . . Don't gamble with dirty fingerprints. And don't let a grease spot raise havoc with your instructions.

USE 50 KLEER-VU ENVELOPES AT OUR RISK

Order now 50 transparent job-ticket envelopes, 10" x 12½", to reduce errors and speed production . . If not 1000% satisfied, return envelopes at our expense, and tear up invoice totaling $10.

AMERICAN KLEER-VU PLASTICS, INC.
53-06 Grand Ave. Maspeth 78, N. Y.

For more details circle NED-188 L3 on enclosed inquiry slip

For a gayer, brighter Christmas use

COLORBEAMS

STORE DISPLAYS and store fronts brilliant with color! Gorgeously-hued flood lighting by organizations . . . business and industrial concerns . . . municipalities! This is the year to "paint the town" . . . to set it a-sparkle with the colorful radiance that typifies Christmas at its gayest. And Amplex Colorbeams are a *natural* for achieving this with topmost ease and effectiveness.

Amplex Colorbeams come in a choice of 14 striking colors and a full range of sizes and wattages. The color is an integral part of the glass . . . will never fade, chip or crack. The sealed-in reflector linings are pure silver and provide maximum light intensity. And Colorbeams have a rated average life of 2000 hours!

To spark the Christmas spirit and crown the season with color, write for the whole story on Amplex Colorbeam Reflector Lamps. Amplex Corporation, Dept. H-11, 111 Water Street, Brooklyn 1, New York.

R 30 for indoor use — R 40 for indoor use — Par 38 for outdoor-indoor use

AMPLEX

Dept. H-11, 111 Water Street, Brooklyn 1, N. Y.

For more details circle NED-189 L3 on enclosed inquiry slip

BOOST PUMPS

Measures 8¼" wide x 9⅝" deep.

Boost 100 PSI. air pressure to 10,000 PSI, fluid pressure for $173.25 (FOB Gardena, Calif.). Eight standard models for output fluid pressures of 1,000 to 30,000 PSI. Special models for lower or higher pressures.

Applicable wherever low volume output at high pressures is the requirement. For oil or water service. Complete power packages also available. Send for bulletins.

SPRAGUE
Engineering and Sales Corp.
1144 West 135th Street, Gardena, California

For more details circle NED-190 L3 on enclosed inquiry slip

SOLDERING IRON
alloy tip resists oxidation, wear

Balanced instant heat electric soldering iron has an efficient transformer and alloy tip which resists oxidation and wear. It operates on 110-v ac and has power output of 180 w. Other features are adjustable swivel tip for hard-to-reach soldering, automatically focused light which follows work, phenolic resin-impregnated cloth plastic case and trigger actuation. Heat sufficient to melt solder is generated in 3½ seconds. Made by **Lenk Mfg. Co.**, 31 Cummington St., Boston 15, Mass.

For more details circle NED-191 L3 on enclosed inquiry slip

FLUID TRANSFER TANK
has pressurized, controlled flow

Two and one-half gallons is capacity of model No. 137 Moto-Fil pressurized fluid or fuel transfer tank which measures only 10 in. high and 12 in. diameter. Pouring and possible spilling are eliminated by built-in brass pump which quickly builds up ample pressure to deliver the full contents. Manually operated "trigger - action" shut-off control stops and starts flow of fuel instantaneously. Tank has 4 ft of oil resistant hose. Also available are No. 136 tank with 2-gal capacity and No. 138 with 5-gal capacity. Made by **R. E. Chapin Mfg. Works, Inc.**, 2136 Chapin St., Batavia, N. Y.

For more details circle NED-192 L3 on enclosed inquiry slip

ALARM WRIST WATCH
is shockproof and antimagnetic

Timing of production operations and laboratory phases are among applications for Edscorp alarm wrist watch. A German import, it is a 17-jewel timepiece with luminous dial, and alarm is set by turning glass rim. Tone can be adjusted to loud or soft. Watch runs 42 hours on one winding and is shockproof and antimagnetic. Available from **Edmund Scientific Corp.**, 180 E. Gloucester Pike, Barrington, N. J.

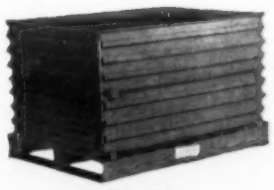
For more details circle NED-193 L3 on enclosed inquiry slip

COLLAPSIBLE BOX RINGS ON PALLETS

FLEXIBLE IN USE . . . FLEXIBLE IN CAPACITY

Here is a Pallet with Pallet Rings designed by Brusco to give maximum flexibility for a wide variety of material handling needs.

1. One or more Pallet Rings can be set on the Pallet to form a sturdy parts box for storing or handling production parts.
2. Rings are collapsible for simplified return shipping and storing.
3. Pallet can be used individually or in conjunction with Pallet Rings.
4. Fabricated in sizes and gauges to meet your specifications.



No. 580

No. 585

Write Brummeler today for complete information

Brusco HANDLING EQUIPMENT
BRUMMELER STEEL PRODUCTS CORPORATION
1411 Ionia Ave. S. W., Grand Rapids, Michigan

For more details circle NED-194 L3 on enclosed inquiry slip

They Want Your Tough Jobs

FOOTE BROS.-LOUIS ALLIS GEARMOTORS

Horizontal Double Reduction

Vertical Double Reduction (With Extended Shaft)

This Trademark Stands For The Finest In Industrial Gearing

Duti-Rated Lifetime Gears—Longer lasting, more efficient. Assure longer life, provide maximum capacity in minimum space. Unequalled in the industrial field.

Foot or Flange Mountings—Engineered for toughest applications—floor, wall or ceiling. Ideal for any job—horizontal or vertical.

Heavy Duty Service—Capacities up to 150 h.p. Output Speeds from 780 down to 7.5 r.p.m.

Superior Construction—Sturdy, compact design saves space—minimizes maintenance.

Quality Motors—By Louis Allis. Available with open dripproof, splashproof, enclosed or explosion-proof enclosures.

WRITE FOR BULLETIN GMA

FOOTE BROS.
Better Power Transmission Through Better Gears

Foote Bros. Gear and Machine Corporation
Dept. NE, 4545 S. Western Blvd., Chicago 9, Ill.

For more details circle NED-195 L3 on enclosed inquiry slip

NOW . . .

Photo-exact copies on ordinary paper

The Kodak Verifax Printer is sensationally different . . . lets you make 3 copies of a letter in 1 minute. And you make your copies on ordinary paper instead of on specially treated papers . . . using only one sheet of sensitized Verifax Matrix Paper.

As a result, you can copy letters, charts, records *faster, more economically*—3 copies of a letter cost less than 4 cents apiece.

The only equipment needed is the typewriter-size Verifax Printer shown above. *It's designed for every office* . . . can be placed where the paper work is heaviest . . . operated by *anyone* under present lighting. *And it's priced for every office—only $240* . . . quickly pays for itself by eliminating costly retyping, proofreading . . . and enabling you to dispatch legible black-on-white copies immediately.

Verifax copying saves wherever there's paper work

No other process is as handy as Verifax copying. It will pay you to mail this coupon today for free booklet giving full details.

Eastman Kodak Company
Industrial Photographic Division
Rochester 4, N. Y. 83

Gentlemen: Please send free Verifax booklet and names of near-by dealers.

Name_____
Company_____
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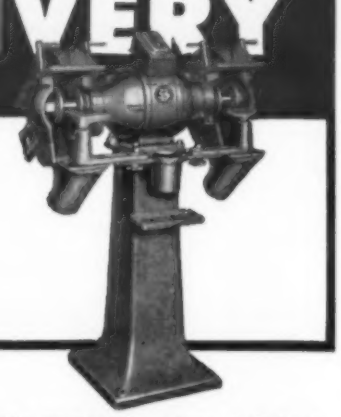
Price quoted is subject to change without notice.

Kodak TRADE-MARK

For more details circle NED-196 L3 on enclosed inquiry slip

IMMEDIATE DELIVERY



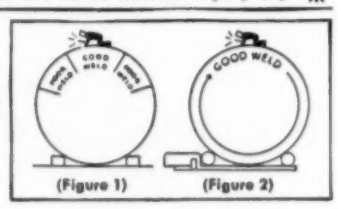
U. S. ELECTRICAL TOOL MODEL 500 UTILITY FLOOR GRINDERS

Totally enclosed motors, ball-bearings in dust-tight housings, ruggedly constructed base and frame, for heavy-duty service. Push button starters, with overload protection. Available in five sizes 1 to 5 H.P., 220/440 volts, 60 cycles, 2 or 3 phase. Write today for name of Distributor and catalog No. US 53.

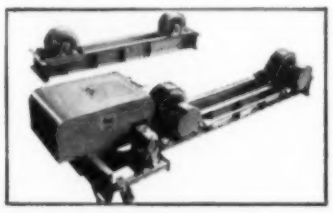
United States Electrical Tool Division
THE EMERSON ELECTRIC MFG. CO.
1050 Findlay St., Cincinnati 14, Ohio

For more details circle NED-197 L3 on enclosed inquiry slip

How Worthington Turning Rolls insure BETTER WELDS



(Figure 1) (Figure 2)



Designed for use in welding cylindrical vessels of any size, Worthington Turning Rolls will insure the best possible weld while lowering costs and increasing footage up to 50%.

The above sketches show how. Unless work is turned continuously, good downhand welding is obtainable only in a small area (Fig. 1). With a Worthington Turning Roll, downhand welding is assured for the complete circumferential seam (either by manual or automatic welding) (Fig. 2).

Write for Bulletin 228A. Worthington Corporation, Plainfield, New Jersey.

Y.2.2

WORTHINGTON
Welding Positioners—Turning Rolls

For more details circle NED-198 L3 on enclosed inquiry slip

SPRAY NOZZLES

...FOR LOWER COST

Spray Nozzles alone can often materially reduce spraying costs. Spraying Systems Co. has proved this again and again. Write for Catalogs 22 and 23 . . . and see for yourself.

CLIP AND MAIL

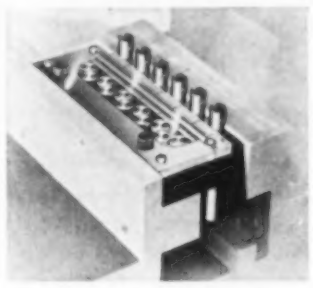
SPRAYING SYSTEMS CO.
3211 Randolph Street • Bellwood, Illinois

☐ Send me Catalog No. 22 ☐ Send me Catalog No. 23

Name_____
Company Name_____
Address_____
City_____ State_____

For more details circle NED-199 L3 on enclosed inquiry slip

MULTIPLE CLAMPING DEVICE holds different size workpieces by independent sliding jaws



Having up to ten independent sliding jaws, Compensating Equalizer is a multiple clamping device usable in all milling, grinding and similar vises for holding hard or soft regular or irregular shaped parts. It can also be used as a jig and fixture component. Floating vertical rollers backing the jaws shift position as the work is clamped so that equal pressure is exerted on each jaw, automatically compensating for differences in work dimensions.

Types are availble for hard and soft parts. Another model compensates for draft angle and surface irregularities on castings and forgings. Number of jaws range from five to ten and jaw widths from 3/8 to 1½ in. Unit illustrated has clear plastic cover in place of normal steel cover to show floating roller layout. Made by **Design Aids Co.**, Dept. NED, N. Seventh St., Newark 7, N. J.

For more details circle NED-200 L3 on enclosed inquiry slip

LAMP REFLECTOR easily installed outdoors

Various outdoor lighting applications can utilize the Yardlite lamp reflector, which mounts on vertical surfaces. It is supplied with reflector, socket, socket holder, pipe bracket, wall fitting and insulators. De luxe model has white titanium porcelain enamel inside surface, while standard model has Permagloss baked enamel finish. Fixture is easily installed by following directions for assembly and single or two-location control appearing on the carton in which it is packed. Two reflector sizes are made: 12-in. for 60 to 100-w lamps; and 14-in. diameter for 150-w lamps. Socket holder and wall fitting are cast aluminum. Made by **Jones Metal Products Co.**, Abolite Lighting Div., West Lafayette, O.

For more details circle NED-201 L3 on enclosed inquiry slip

Plastic-Asphalt-Rock Flooring

Flash-Stone Co.—Advantages of plastic pellets in an asphalt-rock mixture for industrial flooring are related in an 8-page booklet. Pellets are used in two flooring material types, Immediate Set and Liggite. Characteristics of each type are given. Use is for large or small areas.

For more details circle NED-202 L3 on enclosed inquiry slip

change from cord to Cordomatic* TROUBLE LIGHT REELS

* Reg. U.S. Pat. Off.

GIVES YOU LIGHT WHEN YOU WANT IT—WHERE YOU WANT IT!

$9.95
FOR 20' EXTENSION MODELS
25' MODELS—$14.95
40' MODELS—$19.95

√ MODERN √ EFFICIENT √ ECONOMICAL

No more tangling in a clumsy wire "booby trap" that's always in your way, causing short tempers and painful accidents! Save time, trouble and money the Cordomatic way. Cordomatic works like a window shade—just pull out the length of cord you need, and it locks in place automatically! A flick of the wrist, and z-z-zip, it rewinds itself. One Cordomatic Trouble Light Reel will outlast many ordinary drop cords.

Available Through Your Local Automotive Jobber

No installation costs. Just hang up, plug in!

Foolproof "Gravity Action" Recoil Mechanism . . . locks at any desired length!

U/L Approved #18-2 S.V.O. Neoprene jacketed, kink-proof cord! Oil and water resistant.

New "Stubby" Handle! 100% Neoprene with protector ears.

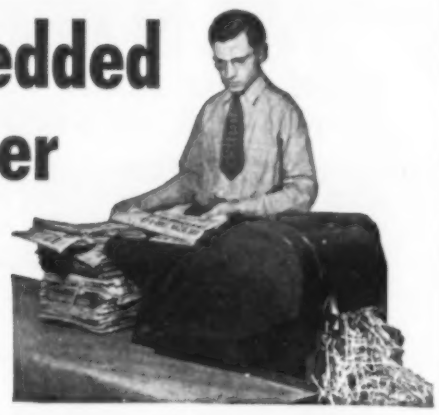
New type "swing open" guard.

Unconditionally guaranteed for one year!

Cordomatic DIVISION OF THE VACUUM CLEANER CORP. OF AMERICA
PLANT NO. 2: CROSKEY ST. & INDIANA AVE.
PHILADELPHIA 32, PENNA.

For more details circle NED-203 L3 on enclosed inquiry slip

Shredded Paper



IS THE IDEAL PACKING MATERIAL

produce it yourself for . . .

(1) Real dollar & cents savings
(2) Minimum inventories
(3) Substantial space savings
(4) Dependable supply

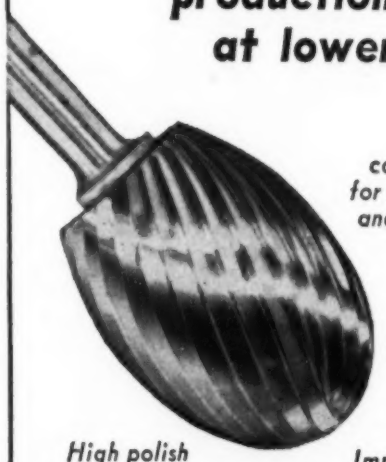
Test a "Silver" paper shredder in your own shop without obligation—Get complete details by writing *today* to:

INDUSTRIAL SHREDDER & CUTTER CO.
107 Mill Street Salem, Ohio

For more details circle NED-204 L3 on enclosed inquiry slip

Let Us Prove...

better, faster production at lower cost



Precise concentricity for long tool life and smooth cut

Correct spiral for fast cutting

High polish promotes chip flow

Improved rake angles for minimum loading

job-engineered, master-machined

Choose FORD

HSS GROUND CUTTERS

The superior performance of FORD HSS Ground Cutters has been proven in on-the-job tests in countless applications, on ferrous or non-ferrous materials. If faster, better production at lower cost is your goal, get the facts on FORD.

FORD *-- the complete line!*

HSS ground cutters, rotary files, countersinks
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Complete Details, Operating Data

All specifications plus informative operational data on more than 300 FORD rotary tools contained in new FORD Catalogue No. 207. Write for yours!

FORD regrinding service adds tool life, reduces tool costs!

M. A. FORD MFG. CO., INC.
Pioneers in rotary tools for more than 30 years
721 West River St., Davenport, Iowa

For more details circle NED-205 L3 on enclosed inquiry slip

In SHOP BOXES little things make a BIG difference!

STYLE A

...you'll benefit from these UNION METAL advantages

- **Built-In Wear Runners** give years of extra wear at no extra cost.
- **One-Piece Bottom and Ends** for added strength where it's needed most.
- **14-Gauge One-Piece Drawn Angle Corners,** more sturdy than the conventional **flat strips.**
- **Flexible Tooling** permits special box dimensions without premium prices.
- **Prompt Shipment** on all common and unusual types of steel shop boxes.

Send for Bulletin MH-807A for information and dimensional data. Address The Union Metal Manufacturing Company, Canton 5, Ohio.

UNION METAL
Material Handling Equipment

For more details circle **NED-206 L3** on enclosed inquiry slip

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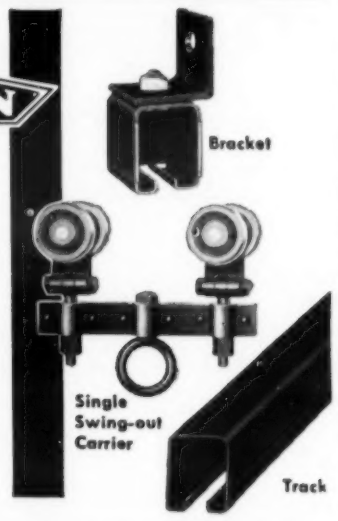
COBURN

OVERHEAD CONVEYING EQUIPMENT

simple, easy installation



Coburn track, brackets and carriers are simple in design . . . present no complicated installation problems. In fact, your own plant personnel can easily handle the job. Inexpensive re-arrangement or extension can also be made at any time because of the section design of Coburn Overhead Monorail.

Write for Catalog #220 to Coburn Sales and Engineering, 56 Sterling Street, Clinton, Mass.

THE COLORADO FUEL AND IRON CORPORATION • Denver and Oakland
WICKWIRE SPENCER STEEL DIVISION • Atlanta • Boston • Buffalo
Chicago • Detroit • New Orleans • New York • Philadelphia

1984

COBURN PRODUCTS
PRODUCTS OF WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL AND IRON CORPORATION CFI

For more details circle **NED-207 L3** on enclosed inquiry slip

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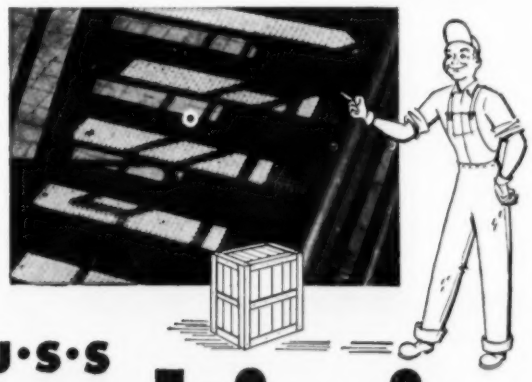
Why run the risk of a fall on the stairs . . .
Why add to upkeep and costly repairs,
When Multigrip gives you traction assurance . . .
When Multigrip Floor Plate has rugged endurance.
Get sure-footed safety that never will cease,
Use Multigrip plate . . . watch your upkeep decrease!



U·S·S multigrip FLOOR PLATE

UNITED STATES STEEL CORPORATION, PITTSBURGH
COLUMBIA-GENEVA STEEL DIVISION, SAN FRANCISCO
TENNESSEE COAL & IRON DIVISION, FAIRFIELD, ALA.
UNITED STATES STEEL SUPPLY DIVISION, CHICAGO
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

Sold by leading distributors from coast to coast 3-2019

UNITED STATES STEEL

For more details circle **NED-208 L3** on enclosed inquiry slip

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MONOCHROMATIC LIGHT
2-in. unit is completely portable

For inspection of flatness, finish and size with optical flats, this 2-in. monochromatic light generator is compact and is ideal for use at production machines, inspection stations and by roving inspectors. Shielding permits inspection to be made on magnetic chucks when chuck power is on. Instrument is designed for use directly on machine tool work surface or surface plate, with head rotated to the rear directly over the work. Head is rotatable through 360 degrees around the column, and can be removed for use as a hand-held light source. Light generating element is helium, and operation is on a standard 110-v line. Made by **DoALL Co.,** 256 N. Laurel Ave., Des Plaines, Ill.

For more details circle **NED-209 L3** on enclosed inquiry slip

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QUICK-DRYING ENAMELS
for indoor and outdoor use on metals

Fast drying is combined with hardness and resistance to abrasion, weather and wear in line of Toconamel enamels for metal surfaces. For indoor and outdoor service, they can be brushed or sprayed and will dry to touch in 4 hours. Use can also be on wood surfaces. Colors offered are brilliant blue, yellow, green, gray, orange and red. Quick-drying permits overnight refinishing with two colors for use the next day. Made by **Tropical Paint & Oil Co.,** 1150-1300 W. 70th St., Cleveland 2, O.

For more details circle **NED-210 L3** on enclosed inquiry slip

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PRESS ACCESSORIES
replace or remove bushings

As an accessory for the Manzel 10-ton arbor press, this set of six extension inserts permits using the press for removing and replacing bushings, and similar pressing or forcing operations. Other uses include straightening, material testing, bending and broaching. Press has a weight of 128 lb. A hydraulic gage which registers in tons is available as optional equipment. Made by **Frontier Industries, Inc.,** Manzel Div., 302 Babcock St., Buffalo 10, N. Y.

For more details circle **NED-211 L3** on enclosed inquiry slip

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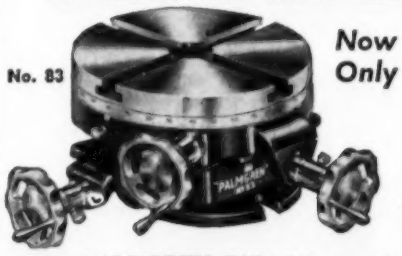
PALMGREN

ROTARY, INDEX, MILLING TABLE

The Only Table Having Rotary Feed Combined with DUAL CROSS FEEDS!

No. 83



Now Only **$54.50**

Turns Your DRILL PRESS Into A VERTICAL MILLER

This PALMGREN TABLE is sensational in price, construction and performance. Just what shops need for accurate, precision work. You can mill straight or curved, slot, drill, also rout, rabbet, mortise and sand on wood. Do hundreds of jobs as milling slots, grooves, keyways, squares, hexagons, curves, flats, dovetails, indexing and laying out work.

Designed for use on Drill Press or Milling Machine. It handles all types of metal and woodworking operations and makes your drill press a vertical milling machine. Precision built. It permits close tolerances. Rotary Feed is calibrated in degrees. Cross Feeds in thousandths. Cross slides and feed are 2⅛" each side of center—4½" overall. Has Acme thread cross feed screws, adjustable gibs on cross slides—40 to 1 worm and gear ratio in rotary feed. 4 Bolt slots—2 lock screws.

No. 83 Table Dia. 8", T-Slots ⅝", Base Keyway ⅝", Base Dia. 6¼", Ht. 5", Wt. 37 lbs. Price Only $54.50.

Order Today! Write for new Catalog No. 201

CHICAGO TOOL and ENGINEERING CO.
Mfrs. of PALMGREN PRODUCTS Since 1918
8378 South Chicago Ave. • Chicago 17, Ill.

For more details circle **NED-212 L3** on enclosed inquiry slip

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IS RUST EATING AWAY YOUR PARTS INVENTORY?

Then you Need MARVELLUM VPI® WRAP

Paper coated with a Volatile Corrosion Inhibitor

Avoid the damages of destructive rust, the loss of time and money spent in refinishing inventory parts, the mess and bother of slushing and cleaning. Wrap your parts—or merely line your bins—with economical Marvellum VPI.

VPI is a paper coated with a new chemical which slowly vaporizes, forming an invisible protective film that prevents corrosion. Used as a wrap it keeps rust away for years. Used as a liner it gives you many months of trouble-free storage. Developed during the war as a protective wrap for shipment of steel and aluminum parts, many companies are also using it to protect their inventories or as a lining for tote boxes on the production floor.

Marvellum VPI is available in sheets, envelopes or special containers. Marvellum has complete facilities under one roof for designing, producing and coating VPI Wraps. Also makers of a wide range of other barrier materials to meet your needs for product protection. Distributors in all major cities.

Get all the facts. Write for FREE BOOKLET.

The **Marvellum Company**
34 APPLETON STREET HOLYOKE, MASS.
First and Foremost in VPI Protection

For more details circle **NED-213 L3** on enclosed inquiry slip

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NEW

RAYMOND

POWER UNIT*

Opens up like a book for fast, easy servicing

IT'S HERE . . . the day you can service an electric truck as easily as you'd open a book. Because all parts on this new Raymond Power Unit are housed behind hinged double doors. There's nothing under the unit to inspect or service, except the wheels.

This great unit now is furnished on all Raymond Electric Trucks. No other truck offers you a power unit like it! It's the same time-tested power unit developed and used by Raymond for the past 4 years. Only the working mechanism has been re-arranged for easier maintenance, plus rider comfort.

Send For Bulletin Get the facts on the new Raymond Power Unit before you buy your next industrial truck. Mail this coupon today! *Patent No. 2,564,002

The RAYMOND CORPORATION
4121 Madison St., Greene, N.Y.
Please send me Bulletin, describing your new Power Unit.

NAME_____ TITLE_____
COMPANY_____
STREET_____
CITY_____ STATE_____

For more details circle **NED-214 L3** on enclosed inquiry slip

Using a patented, compound leverage design, the No. 234 Multi-Purpose Plier increases your grip 10 times at the jaws. It securely holds square, round or tapered objects. A sensational work-saver. Buy one today from your PROTO dealer. Send 10¢ for 68-page catalog to

PLOMB TOOL COMPANY
2275A Santa Fe Ave.,
Los Angeles 54, Calif.

Choose PROTO for your other plier needs. The complete line has the right plier for almost every job.

5384

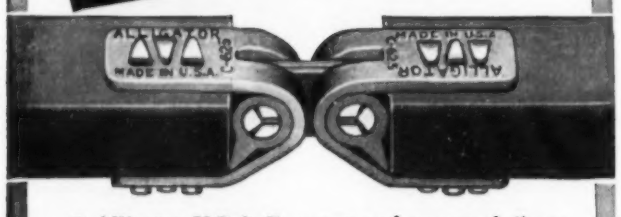
PROTO TOOLS
PROTO means PROfessional TOols

Eastern Factory—Jamestown, N.Y.
Canadian Factory—London, Ont.

For more details circle NED-215 L3 on enclosed inquiry slip

Now you can fasten V-belts by using

ALLIGATOR
V-BELT FASTENERS



● Alligator V-Belt Fasteners and open-end (long length) V-belting in rolls will enable you to make up multiple V-belt drives for a wide variety of applications.

Available for B, C and D sizes of V-belting.

Not to be used for repairing endless cord V-belts.

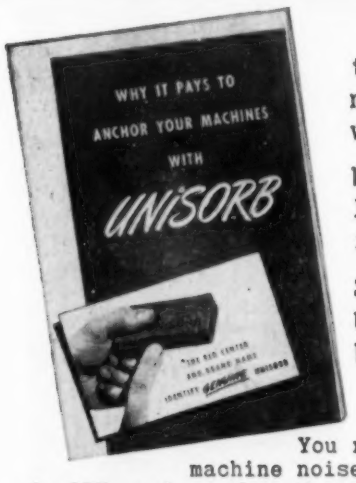
Bulletin V-211 will give you complete details. A copy mailed on request.

Order from your supply house

FLEXIBLE STEEL LACING COMPANY
4664 Lexington St., Chicago 44, Illinois

Also sole manufacturers of Alligator Steel Belt Lacing for flat conveyor and transmission belts and FLEXCO Belt Fasteners and Rip Plates for fastening and repairing conveyor belts.

For more details circle NED-216 L3 on enclosed inquiry slip



to mount your machines without...

bolts
lag screws
floor damage

Send for the UNISORB® Booklet

You reduce transmitted machine noise and vibration up to 85%, and you lengthen machine life, when you use UNISORB mounting pads. And there is no danger of the machines "walking" when mounted this easy way. Send for your copy of the booklet describing this modern way to mount machines.

RETURN COUPON TODAY!

the FELTERS company, 224 South St. Boston, Mass.
Please send me a copy of "Why It Pays to Mount Your Machines on UNISORB" — at no obligation to me.

Name.....Title.....
(Please Print)
Company.....
Address.....
City.....Zone....State.....

For more details circle NED-217 L3 on enclosed inquiry slip

CHAINLESS CONVEYOR improvement eliminates lubrication

Need of any lubrication throughout the entire Landahl chainless conveyor system (*May* 1953 *NED*) has been eliminated by carburizing (case hardening) of the socket and ring assembly. Parts subjected to the equivalent of years of use indicated less wear than noncarburized grease-packed parts formerly used. Temperatures as high as 700° F have little effect on the working parts, making the system suitable for use in oven conveyor service. Made by **Landahl Conveyor Co.**, 1382 Essex Ave., Columbus 16, O.

For more details circle NED-218 L3 on enclosed inquiry slip

CUT-OFF WHEEL more durable than previous type

Practically no tendency to fray or split at the face in layers is shown by the improved BFR grade K reinforced hub-type resinoid cut-off wheel. It replaces a wheel with the same designation, and tests show that more than a third more life can be expected from it. Uniformity in grinding action from wheel to wheel and lot to lot has also been improved. Alundum and Crystolon abrasives are available in a variety of grit sizes. Diameters are 7 and 9 in., and thicknesses 1/8, 3/16, 1/4 and 3/8 in. Center hole size is 7/8 in. Made by **Norton Co.**, 200 New Bond St., Worcester 6, Mass.

For more details circle NED-219 L3 on enclosed inquiry slip

WE BEG YOUR PARDON

In the description of Copper-Brite surface treatment which removes surface oxides and passivates copper and most of its alloys, Item NED-1057 J3, it was stated that "Compound is available in 13-gal carboys or in 1-gal sample." The correct statement should have been "Compound is available in 13-gal carboys. One gallon sampling unit is offered at $4.50." Copper-Brite is made by **Rossaul Co.**, 170 Fifth Ave., New York 10, N. Y.

For more details circle NED-220 L3 on enclosed inquiry slip

For more details circle NED-221 L3 on enclosed inquiry slip

Left—Style 14500 R Suspended Head Bag Closing Machine. Hang it up any place!

NOW!
EFFICIENT BAG CLOSING FOR SMALL PLANTS

HERE is the popular, economical Union Special Suspended Head Bag Closing Machine that offers many plants an excellent solution for handling varying volumes of work. Check these features: Easily installed anywhere in your plant with overhead pulley and counterweight or top balancer! Built-in motor, thumb-controlled clutch, and automatic brake! Plug it in and go to work! Adaptable to fabric or paper bags of various sizes!

SEND FOR THIS NEW BULLETIN!

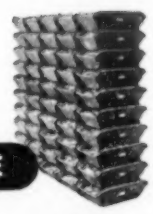
Get your copy of this 16 page illustrated bulletin containing helpful data and charts on the complete Union Special line of bag closing machines. UNION SPECIAL MACHINE COMPANY, 416 N. Franklin St., Chicago 10, Ill.

UNION SPECIAL

For more details circle NED-222 L3 on enclosed inquiry slip

STANDARD BOXES *for* SPECIAL JOBS!

● For any problem you have in handling small parts, there is a standard NesTier custom-made to fit your requirements. A production line product, the NesTier effects savings in initial cost and on the job—from stock room to loading dock.



STOCK ROOM OR STORAGE

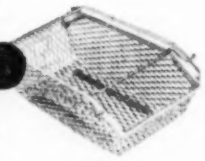
The only box that will serve alone as a permanent stock room fixture. No racks needed as tiered units lock themselves together to form rigid stacks. Parts in all units are visible and accessible.

PRODUCTION

NesTiers were designed for production line work. Empty, they nest to save space. Filled and tiered, they lock together with contents of all units visible and accessible. They are easily transported by truck, roller or overhead conveyor or by hand.

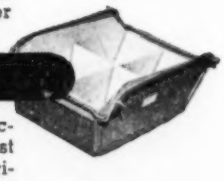
DRAINAGE

Here is the standard steel NesTier with a lanced bottom that permits rapid drainage of contents without allowing small parts to slip through. No need to transfer parts when this box is used.



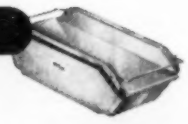
DEGREASING

No need to change boxes for any dipping or degreasing operation with this NesTier expanded metal basket. Formed in the distinctive NesTier shape, this unit is as rugged as the sheet steel box and retains all NesTier features.



PROTECTION

NesTier fibre inserts perform two functions. Parts are protected against damage from metal box and a variety of parts may be carried without becoming mixed. Furnished with or without dividers.



SHIPPING

The NesTier "snap on" lid keeps parts from jouncing out while being transported. Units with lids attached can be tiered allowing parts to be stored or transported and yet keep clean.

NesTiers are formed of one-piece sheet steel, with or without lanced bottom; zinc plated expanded metal; galvanized; stainless steel or aluminum. All units and accessories interchangeable. Two standard sizes.

NESTIER
IT NESTS - IT TIERS

THE CHAS. WM. DOEPKE MFG. CO., Inc.
METAL SPECIALTIES DIVISION • ROSSMOYNE, OHIO

For more details circle NED-223 L3 on enclosed inquiry slip

Asbestos Gloves for HOT Jobs

Handle hot things with Safety. Wear Industrial's famous No. 200-14 asbestos gloves. • Made of close woven 2½ lb. per square yard Underwriters Grade asbestos cloth that resists burning. Big, roomy cut; airy and comfortable. All seams double stitched. One-piece construction from tip to top with no seams at wrist or wearing edges to burn or pull out. Made lined or unlined. Many styles of gloves and mittens, both plain and leather reinforced. Over 40 years experience in designing and manufacturing a complete line of dependable Safety Apparel. Write for free catalog.

To be sure of the Genuine — Steel-Grip INDUSTRIAL Safety Apparel — Demand this Trade Mark

INDUSTRIAL GLOVES COMPANY
A Corporation
1522 Garfield Street, Danville, Illinois
(In Canada: Safety Supply Company, Toronto)

For more details circle NED-224 L3 on enclosed inquiry slip

STANDS WEAR... TEAR... HEAT

PENFLEX TUBING HAS TRIPLE LIFE WHERE OTHERS FAILED

Heat . . . pressure . . . constant flexing were the operating conditions on the "watch-case moulds" in a large tire plant. Many other metallic hoses had been used. Pre-mature failures resulted in a call to Penflex. "Flexineering" went to work. The proper type of Penflexweld wire braided hose installed. Now, these Penflex products have built up a consistent record of lasting three to four times longer than the previous products used.

Let Penflex engineers show you how "Flexineering" can save you time, maintenance, production and money. They are ready to supply you with a complete line of four wall interlocked and seamless welded corrugated flexible tubing in sizes from 1/8" to 30" I.D. Write today for the new fact book on flexible tubing.

Pennsylvania Flexible Metallic Tubing Company, Inc.
7208 Powers Lane, Phila. 42, Pa.

PENFLEX
HEART OF INDUSTRY'S LIFE LINES

For more details circle NED-225 L3 on enclosed inquiry slip

HE CAN SHOW YOU HOW TO SAVE TIME AND MONEY

The man who uses brushes in his daily work knows the best when he sees it . . . he just looks for the name "OSBORN". His quick "OK" can be your clue to important savings in purchasing time and cost. All you need to do is put the name "OSBORN" on your order cards.

You can buy OSBORN Brushes *automatically* with confidence because their workmanship and materials are backed by 61 years of OSBORN service to Industry. Accepted as the standard of quality today, Osborn Brushes are stocked by leading Industrial Distributors in your area. *The Osborn Manufacturing Co., Dept. ZII, 5401 Hamilton Ave., Cleveland 14, Ohio.*

Write for free Handy Catalog Simplifies specifying of Osborn maintenance and paint brushes.

Osborn Brushes

OSBORN POWER, MAINTENANCE AND PAINT BRUSHES AND FOUNDRY MOLDING MACHINES

For more details circle NED-226 L3 on enclosed inquiry slip

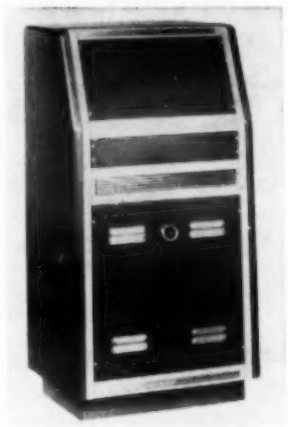
ELECTRIC OVEN for industrial baking processes has accurate temperature control

Temperature uniformity is a feature of the Baronet industrial electric oven. Applications include baking, drying, aging, curing or dehydrating. Adjustable temperature controls and forced air circulation throughout the chamber provide a constant temperature, and a fan draws fresh air into the heating unit through a controlled air intake. Volatiles, moisture and impurities are exhausted.

Oven has 46 cu ft of usable space, inside working dimensions being 42 x 36 x 52 in. Insulated single door with strap hinges and explosion type latches are standard, but double doors, removable shelving and leg mountings are optional. Maximum temperature is 500° F. Made by **Baron Industries,** 241 (I.O.) West Ave. 26, Los Angeles 31, Calif.

For more details circle NED-227 L3 on enclosed inquiry slip

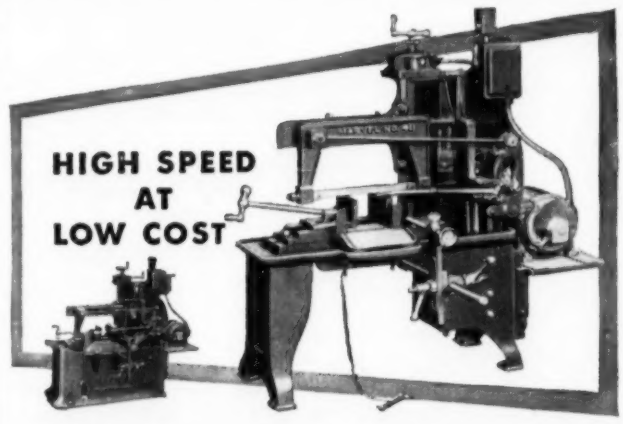
ELECTRONIC EQUIPMENT ENCLOSURES standard line features flexibility to meet specific enclosure needs



System of standard Emcor enclosures meets specific requirements wherever computing, research, integration, transmission, radio and TV control equipment requires an enclosure or complete control system. Basic console assembly frame measuring 21 x 48 x 21 in. has RTMA and WE mounting holes on entire front, top and back. Over 80 lineal inches of insert panel space is available over frame. Wire installation is facilitated by standard knockouts distributed over top shelf, base and side. Provision is also made for key, jack and auxiliary control panel.

Either ball or plain cornered side dress panels are offered. Insert and pedestal drawer compartments; chassis guide shelf; equipment shelf; writing or typewriter tops; drawer followers; file compartment; plain, louvered and perforated formed panels; standard communication panels; hinged doors; stacking cabinet; and casters are among over 75 components available for tailoring units to requirements. Made by **Elgin Metalformers Corp.,** 914 N. Liberty St., Elgin, Ill.

For more details circle NED-228 L3 on enclosed inquiry slip



For tool room, stockroom, or maintenance shop, this 6" x 6" capacity hack saw is ideal when you want speed, accuracy, and economical operation at lowest possible investment.

Embodies similar design principles and features of MARVEL heavier duty production saws. Its shaper-link action that provides quick return stroke, and its heavy pressure screw feed are two exclusive MARVEL features that provide FASTER cutting than can be obtained with any other metal saw in its price class.

Single speed, 2-speed, and 4-speed models are available, to suit all types of applications where materials of different hardness and alloy characteristics are to be cut. Cabinet base or open-leg base are optional.

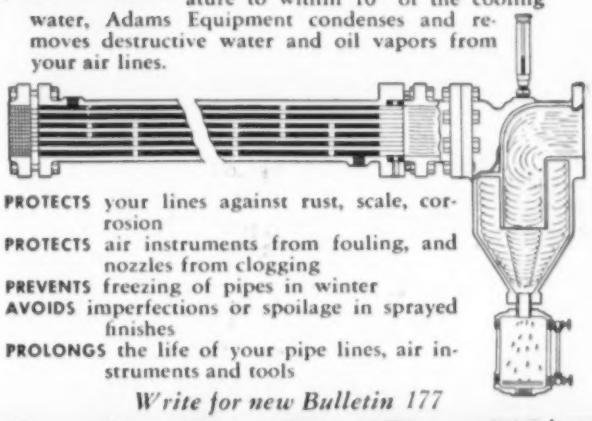
MARVEL Metal Cutting SAWS
Better Machines—Better Blades
ARMSTRONG-BLUM MFG. CO.
"The Hack Saw People"
5700 Bloomingdale Ave. Chicago 39, U.S.A.

For more details circle NED-229 L3 on enclosed inquiry slip

You Can be Sure of Clean Dry Air for your Compressed Air Tools with ADAMS Aftercooler and Cyclone Separator

3500 Gallons — 1 YEAR'S water extraction from air lines equipped with Adams Aftercooler and Cyclone Separator.

• Reducing compressed air temperature to within 10° of the cooling water, Adams Equipment condenses and removes destructive water and oil vapors from your air lines.



PROTECTS your lines against rust, scale, corrosion
PROTECTS air instruments from fouling, and nozzles from clogging
PREVENTS freezing of pipes in winter
AVOIDS imperfections or spoilage in sprayed finishes
PROLONGS the life of your pipe lines, air instruments and tools

Write for new Bulletin 177

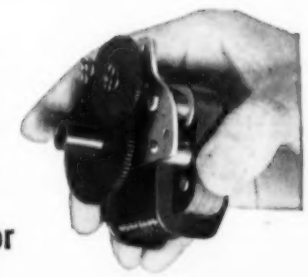
R. P. ADAMS CO., INC. 227 E. PARK DRIVE BUFFALO 17, N. Y.

For more details circle NED-230 L3 on enclosed inquiry slip

BARBER COLMAN

Barcol. Small Motors

Rowe Automatic Dispenser serves milk in a second ...powered with Barcol Small Motor



Just drop a few coins in this vending machine and out comes a cool, refreshing carton of milk. Made by Rowe Manufacturing Company, Inc., New York City, these dispensers are widely used in schools, industrial plants and apartment buildings. They keep milk properly chilled with a built-in refrigeration unit and the vending mechanism is entirely automatic with no handles or levers to operate.

To activate the dispensing mechanism a Barcol geared head HYAZ motor is used with a special gear train developed for this application. "Plus" features of this Barcol small motor include rugged, precision-built gear train . . . porous bronze bearings . . . hardened and ground stainless steel shafts . . . high starting torque.

This Rowe application is another example of how Barber-Colman engineers can help in solving a design-production problem with the *exact* motor for the job. Whenever you have projects involving small motors, let Barber-Colman work them out with you.

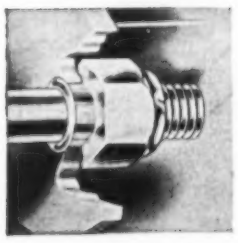
FREE DATA SHEETS ON WIDE LINE OF SMALL MOTORS
The Barcol line includes unidirectional, synchronous, and reversible motors—up to 1/30 h.p. With and without reduction gearing—open or enclosed types. Expert engineering service available. Write today, tell us your problem, ask for free data sheets.

BARBER-COLMAN COMPANY, DEPT. K, 1214 ROCK STREET, ROCKFORD, ILLINOIS
Small Motors • Automatic Controls • Industrial Instruments • Aircraft Controls • Air Distribution Products • OVERdoors and Operators • Molded Products • Metal Cutting Tools • Machine Tools • Textile Machinery

For more details circle NED-231 L3 on enclosed inquiry slip

clinch type ELASTIC STOP nuts

for attachment to thin section metal components



- Permanently installed by simple clinching or swaging.
- Self-locking and vibration-proof—because all ESNA Clinch Nuts have the famous red elastic locking collar.
- Permit precise screw adjustments; prevent loosening of component parts.

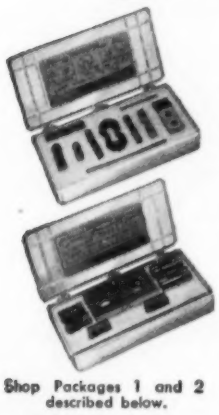
- **WRITE for design information on Clinch Nuts and other special and standard ESNA fasteners. Address Dept. N35-1137.**

ELASTIC STOP NUT CORPORATION OF AMERICA
2330 Vauxhall Road, Union, N. J.

DESIGN HEADQUARTERS FOR SELF-LOCKING FASTENERS

For more details circle **NED-232 L3** on enclosed inquiry slip

Plant efficiency, safety improved with CARBOLOY® permanent magnets



Shop Packages 1 and 2 described below.

USERS REPORT ON "YOU-TRY-IT" KITS

Shop Supt. says magnets "*. . . prove very successful for holding parts during stroke of press*" in piercing die operation.

Welding Plant owner finds magnets "*. . . handy to position wire frame assembly while spotting.*"

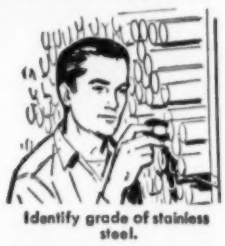
Plant Engineer, typical of the hundreds of shop men trying magnet Shop Packages in their own plants, says, "*We have just begun to realize the possibilities of this product.*"

THESE are but 3 of hundreds of comments from shop men who have obtained "You-Try-It" Shop Packages of Carboloy permanent magnets.

They find the powerful, lasting energy of the magnets ideal for holding, lifting and separating jobs . . . for speeding setups, production . . . for saving time, money plantwide.

Order Carboloy magnet "You-Try-It" Shop Packages yourself. Perhaps they will spark you, too, to savings in your plant. See coupon.

Hold small parts for light grinding.



Identify grade of stainless steel.

Hold shield during paint spraying.

Get the "YOU-TRY-IT" Magnet Assortment

Shop Package No. 1 – Contains 48 Carboloy permanent magnets: 8 styles – 3 pairs each. Magnetic pull up to 2 lbs. per magnet. Price $10.00 (subject to applicable sales and use taxes). Order today.

Shop Package No. 2 – Contains 18 magnets: 4 styles – 2 pairs each; and 1 style – 1 pair. Magnetic pull from 3 lbs. to 12 lbs. per magnet. Price $15.00 (subject to applicable sales and use taxes). Order today.

"Carboloy" is the trademark for the products of the Carboloy Department of General Electric Company

MAIL THIS COUPON TODAY

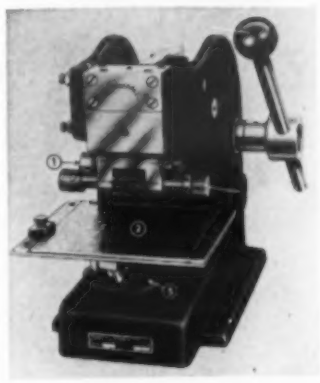
CARBOLOY
DEPARTMENT OF GENERAL ELECTRIC COMPANY
E. 8 Mile Road, Detroit 32, Michigan

☐ Send me free Magnet Idea Literature Kit.
☐ Send me____ Shop Package No. 1 at $10.00 each, postpaid.
☐ Send me____ Shop Package No. 2 at $15.00 each, postpaid.
☐ Enclosed is check or money order for $____. ☐ Send C.O.D.

Name_____ Position_____
Company_____
Address_____
City_____ Zone_____ State_____

For more details circle **NED-233 L3** on enclosed inquiry slip

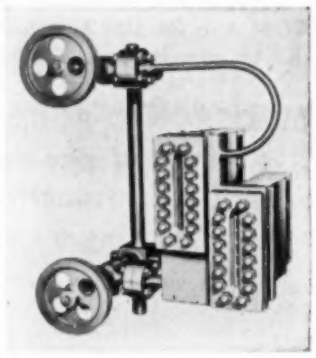
BENCH NUMBERING PRESS stamps characters to 1/8-in. high



Hand operated and using a cam to obtain pressure, model 136 bench numbering press stamps small name plates and other small flat articles with characters up to 1/8-in. high. Compact unit has only three moving parts. Any numbering machine, automatic or nonautomatic, typeholders with interchangeable steel type, or special dies can be operated in the press. Made by **Numberall Stamp & Tool Co.**, Dept. 24-43, Huguenot Park, Staten Island 12, N. Y.

For more details circle **NED-234 L3** on enclosed inquiry slip

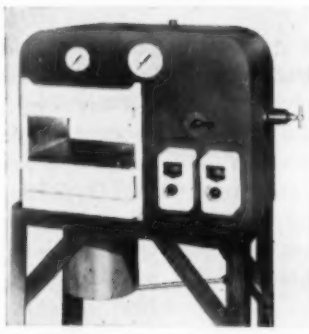
SECTIONAL GAGE GLASS for high temperature, pressure use



Elimination of the inherent internal and applied stresses in long slender boiler gage glass operating under high boiler pressure and temperature is made possible by use of glass divided into a series of short sections. Accurately fitted glass has thin mica separators in the joints. Sectional glasses are furnished on all bi-color gages operating at pressures in excess of 1350 psi. Made by **Diamond Power Specialty Corp.**, Lancaster, O.

For more details circle **NED-235 L3** on enclosed inquiry slip

HYDRAULIC PRESS for rubber and plastic molding



Precision molding of rubber and plastics and other uses where controlled heat and pressure are required are handled by this hydraulic press. Suitable both for experimental and production work, press is electrically heated, air operated and accommodates 12-in. square platens. Ram pressure is variable between 50 and 4000 psi, which is approximately equivalent to a capacity of 55 tons. Pushbutton controls are used. Made by **Atlas Hydraulics, Inc.**, 3576-N Ruth St., Philadelphia 34, Pa.

For more details circle **NED-236 L3** on enclosed inquiry slip

"WOW! I drilled a 1-inch hole through 6 inches of hard concrete in 1 minute with a Cyclo-Core drill bit!"

CARBIDE-TIPPED BITS
For Drilling Holes 1/8" To 6" Diameter In
TILE · BRICK · CONCRETE · GRANITE
or ANY other Masonry Material

Time is Profit when you use these easier, faster drilling bits for any masonry job — any size hole, any depth, any material from soft brick to hard concrete and granite. The New England Carbide Masonry Bit size-range — Cyclo-twist — Cyclo-Core — Thunder-twist — Thunder-Core — is the world's only complete line. Your dealer has them or can easily get them for you.

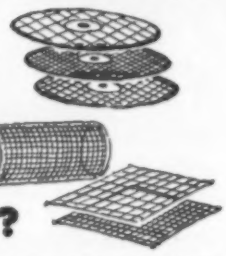
Mail the Coupon for Free Copy of "MASONRY DRILL BIT GUIDE" — full information on how to select the right bit for every power tool and every masonry material.

NEW ENGLAND CARBIDE TOOL CO., INC., Cambridge 39, Mass.

New England Carbide Tool Co., Inc., **60E** Brookline St., Cambridge 39, Mass.
Gentlemen: Please send by return mail the free "Masonry Drill Bit Guide".
Name .....
Address .....
My Local Dealer's Name Is: .....

For more details circle **NED-237 L3** on enclosed inquiry slip

filter leaves? strainers? sizing screens?



CAMBRIDGE can build almost any type of wire cloth part to your specifications. Our factory men can work from your specifications, or our Engineering Department can draw up working prints and specs based on merely your description of what the part must do. Why not let us quote the next time you need special wire cloth forms?

ALSO WIRE CLOTH IN BULK—from warehouse or woven to order. We can also supply you with wire cloth in bulk for your own fabrication. Many common types are ready for immediate shipment from stock. And if your order needs special production, we'll schedule our looms to have the material in your plant without delay . . . any metal or alloys and from 20 x 250 mesh up to 4" openings.

FOR COMPLETE INFORMATION write for illustrated catalog. Or call in your Cambridge Field Engineer for a conference in your plant. He's listed under "Wire Cloth" in your classified phone book.

The Cambridge Wire Cloth Co.

WIRE CLOTH | METAL CONVEYOR BELTS | SPECIAL METAL FABRICATIONS

Department C
Cambridge 11, Maryland

OFFICES IN PRINCIPAL INDUSTRIAL CITIES

For more details circle **NED-238 L3** on enclosed inquiry slip

Don't be surprised

. . . if the HydroLectric Lift Truck makes savings of 50 to 80% in your material handling.

HERE'S WHY...

HYDROLECTRIC is easier to operate because of its finger-tip control that is simplicity at its best.

HYDROLECTRIC does the job safely and quickly with its exclusive Dyna-Dual Power Unit that is quiet, odorless, powerful, rugged, and maintenance is practically nil.

HYDROLECTRIC costs less to operate than any other leading truck, and industry after industry has proved that it pays for itself in 3 months.

Want proof? Write for complete information.

LIFT TRUCKS INCORPORATED
2423-31 SPRING GROVE AVE.
CINCINNATI 14, OHIO

Over 1000 models and sizes

HYDROLECTRIC, HYDROMATIC and RED ARROW LIFT TRUCKS

For more details circle **NED-239 L3** on enclosed inquiry slip

BRUNING ELECTRIC ERASER

Saves hours of work... Protects valuable drawings

ERASER CAN'T FLY OUT . . . valuable drawings are safe with a BRUNING Electric Eraser. Exclusive *7-inch* eraser feeds through hollow shaft – can't fly out and let ferrule gouge paper.

SAVES TIME . . . adds extra hours of working time by eliminating tiresome, finger-cramping manual erasing.

RUNS COOL AND QUIET . . . permanently lubricated bearings mean no overheating in steady operation, are mounted in rubber for vibration-free performance. Only one moving part.

EASY TO USE . . . lightweight aluminum housing fits fingers like a pencil. Eraser is extended or replaced in seconds.

Phone or write Bruning – there's an office near you – for more facts and figures on how to save time and tempers with Bruning Electric Eraser. CHARLES BRUNING COMPANY, Dept. S113 4700 Montrose Ave., Chicago 41, Ill.

A-3-3

BRUNING
Everything for the Engineer and Draftsman

For more details circle **NED-240 L3** on enclosed inquiry slip

SLY "ECONOMY" DUST FILTERS
Small, Compact, Inexpensive

The Sly ECONOMY Dust Filter is especially suited for collecting the dust from individual machines or from a small group of dust points in close proximity to each other. It is compact yet it has an abundance of filter cloth which helps to maintain a uniform suction.

This filter offers: (1) *High Efficiency* with complete dust collection; (2) *Low Power,* a 3 HP motor will handle 1400 cu. ft. per minute; (3) *Long Life* because a very liberal amount of filter cloth is used; (4) *Compactness* because the filter cloth occupies a minimum of space; (5) *Effective Bag Cleaning* by means of a simple shaking device.

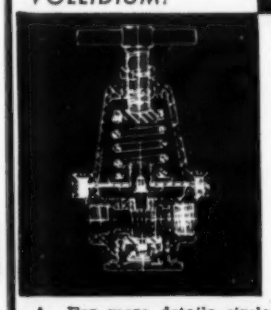
Made in four standard sizes, to filter dust out of 300 to 1400 cu. ft. air per minute. Write **The W. W. Sly Manufacturing Co.,** 4748 Train Avenue, Cleveland 2, Ohio. There are experienced Sly engineers in New York, Chicago, Philadelphia, Syracuse, Detroit, Buffalo, Cincinnati, St. Louis, Minneapolis, Birmingham, Los Angeles, Toronto. Advt.

▲ For more details circle **NED-241 L3** on enclosed inquiry slip ▲

acro
by AIR CONVERSION RESEARCH

a high quality low maintenance cost PRESSURE REGULATOR

It's made of A.C.R.'s new miracle alloy VOLLIDIUM!

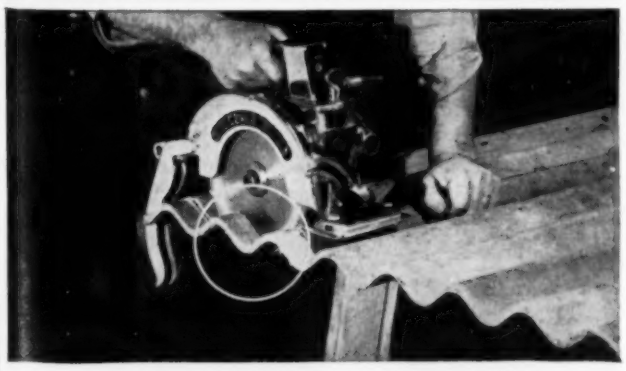


Available in both non-bleeding and self-bleeding models. **acro** regulators are sensitive and accurate while outperforming all other regulators. It is truly the highest capacity regulator on the market.

write or wire for full information.

AIR CONVERSION RESEARCH CORPORATION
4107 north damen ave. dept. NE
chicago 18, illinois

▲ For more details circle **NED-242 L3** on enclosed inquiry slip ▲



Cost-cutters for cutting-off!
Norton wheels add the

"TOUCH OF GOLD"

With Norton cut-off wheels you're sure of the fast, safe, clean-cutting performance that adds the money-saving "Touch of Gold" to every job.

Norton cut-off wheels are made with resinoid, rubber and shellac bonds, in ALUNDUM* (aluminum oxide) abrasive and CRYSTOLON* (silicon carbide) abrasive and in all sizes. You can count on them for the easy handling and exceptional breakage-resistance that mean happier operators and higher production.

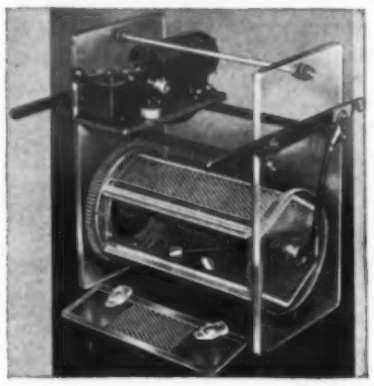
Ask your Norton Distributor about the correct Norton cut-off wheels for your materials and machines. Or write to NORTON COMPANY, Worcester 6, Mass. Distributors in all principal cities. *Export:* Norton Behr-Manning Overseas Incorporated, Worcester 6, Mass.

NORTON ABRASIVES
Making better products ... to make other products better

*Trade-Marks Reg. U. S. Pat. Off. and Foreign Countries

▲ For more details circle **NED-243 L3** on enclosed inquiry slip ▲

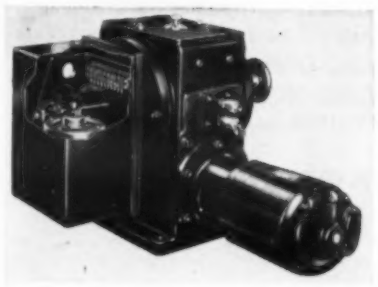
PORTABLE PLATING BARREL
has 1/4-peck plating capacity



Weighing only 28 lb, model SPX Por-to-Plater portable plating barrel is easily set into plating tank by hand. V-shaped cathode contact notch fits cathode rod at any point on the rod. Obstruction - free cylinder, cover with attached locks, hangers, gears, bushings, etc., are of high temperature transparent Lucite as are end plates which support plater and protect cylinder and mechanism in handling. Reversing switch with geared head motor drive turns cylinder in either direction and holds positively for loading and unloading. Cylinder with 6 x 12-in. ID has plating capacity of 1/4-peck. Single phase drive operates on 115-v, 60-cycle current. Made by **Belke Mfg. Co.,** 941-47 N. Cicero Ave., Chicago 51, Ill.

▲ For more details circle **NED-244 L3** on enclosed inquiry slip ▲

AIR-WEIGHT CONTROL SYSTEM
regulates motor-driven blowers for cupolas or air-powered grinders



Designed for constant air-weight control with motor-driven cupola blowers, Dyna-Jet control system has other applications where power input is a measure of some other variable, as in the control of blowers operating in parallel, for mixers, grinders, polishers, etc. Jet pipe regulator, equipped with power-responsive signal system, measures three-phase power and puts out high-level hydraulic signal in proportion to the deviation from preset power level. This hydraulic force acts on two-way hydraulic cylinder to position blower blast gate.

Unit model, illustrated, has built-in oil supply and pump, and is suited for moderate control power needs. Standard model uses separate pump and oil supply for operation of larger valves. System is used with conventional instrument transformers with 120-v 5-amp secondaries. Adjustments are easily made with handwheel on scale calibrated in units of air-weight delivery. Single moving part, the jet pipe relay, is bathed in oil. Made by **Askania Regulator Co.,** 242 E. Ontario St., Chicago 11, Ill.

▲ For more details circle **NED-245 L3** on enclosed inquiry slip ▲

save accidents
save money on the

safety level

. . . and enjoy the safety of the greatest feature ever built into a ladder—the Dayton "safety level" working platform. Check the "big 6" features that make a Dayton your best buy!

1. **Rail guarded "safety level" platform.**
2. **Locks in place automatically.**
3. **Rubber safety shoes.**
4. **Light weight—great strength.**
5. **Economically priced.**
6. **Complete size range 3' to 16' in height.**

Dayton safety ladders

Write Dept. E for Bulletin

Dayton safety ladder co.
2339 Gilbert Ave., Cincinnati, O

In Canada:
Safety Supply Co., Toronto

▲ For more details circle **NED-246 L3** on enclosed inquiry slip ▲

a positive approach...

to lower handling costs saves this manufacturer $6.00 every time his five-ton Robbins & Myers "F" hoist handles a bundle of steel. Bigger unit loads, plus "Freeway"* overhead handling methods offer similar savings to all types of industry. For data on this specific hoist write for Bulletin No. 801-C.

**Materials handling on a separate overhead level.*

TAKE IT UP WITH
ROBBINS & MYERS INC
MOTORS HOISTS CRANES FANS MOYNO PUMPS
HOIST AND CRANE DIVISION, SPRINGFIELD 99, OHIO

▲ For more details circle **NED-247 L3** on enclosed inquiry slip ▲

7 CHECKS FOR A GOOD GEARMOTOR

1 Split Housing . . . Assures easy access to working parts without disturbing alignment or draining oil.

2 Integral Bearing Supports . . . Antifriction bearings mounted direct in rigid housing, not in end brackets, mean permanent alignment of gear shafts—maximum overhung load capacity.

3 Precision Helical Gears . . . Hobbed and shaved after heat-treatment mean quieter, smoother operation—maximum load-carrying capacity.

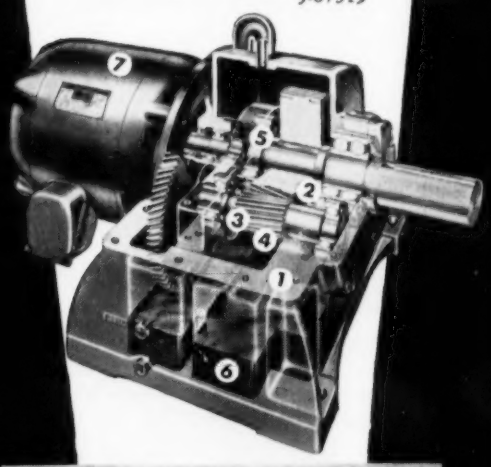
4 Taper-Hardened Gears . . . Tapered hardness from surface to core assures extremely tough, wear-resisting teeth—means longer life.

5 Integral Motor Design . . . Drive pinion mounted on motor shaft—no coupling to align and service—means fewer wearing parts, minimum maintenance.

6 Engineered Lubrication . . . Circulating splash system, protected-type breather, positive mechanical oil seals—mean thorough, leakproof lubrication.

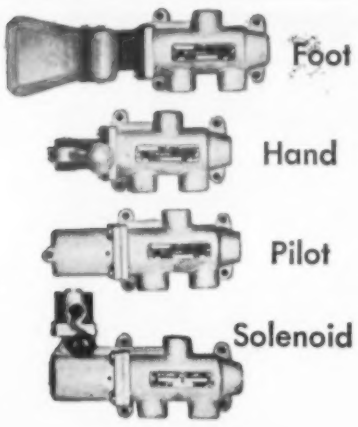
7 Life-Line Motor . . . Pace-setting, industry-proved, compact steel motor with sealed-for-life bearings—means maximum motor dependability.

To get all these features, plus undivided responsibility for motors and gears, specify Westinghouse Life-Line Gearmotors. For more information, call in your Westinghouse representative. Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Penna. J-07319



YOU CAN BE SURE... IF IT'S
Westinghouse
Life-Line
GEARMOTORS

▲ For more details circle **NED-248 L3** on enclosed inquiry slip ▲



New Schrader 4-Way Valves

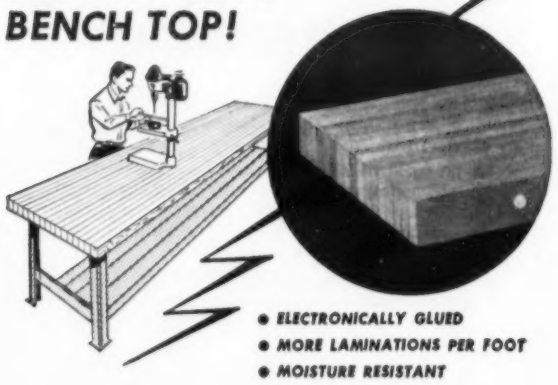
These new Schrader Valves are primarily designed to operate Double-Acting Cylinders. Their simplified design and construction assure long service with minimum maintenance. Can be serviced without removal from air hose. Available in ¼, ⅜, ½ and ¾ N.P.T., they are produced for flow capacities from 160 to 425 cfm free air at 100 psi inlet pressure.

A. SCHRADER'S SON
Division of Scovill Manufacturing Company, Incorporated
459 Vanderbilt Ave. Dept. E-47 Brooklyn 38, N. Y.

For more details circle NED-249 L3 on enclosed inquiry slip

LAMINATED BENCH TOPS

● *NOTHING—BUT NOTHING*
TOPS A TOLCO BENCH TOP!



- *ELECTRONICALLY GLUED*
- *MORE LAMINATIONS PER FOOT*
- *MOISTURE RESISTANT*

Tolco Northern Maple, laminated assembly bench tops are built by the originators of electronic gluing. Skilled craftsmen blend their talents with the finest quality lumber available to bring you the supreme product in the laminated bench and table top industry. Tolco tops have more laminations per board foot than any other giving them superior strength and resistance to wear and tear. Special processing makes Tolco tops especially resistant to moisture and warpage. Write today for full color catalog illustrating and describing this outstanding product. Prices on request.

THE TOLERTON COMPANY
P. O. Box D 658 Alliance, Ohio
Established 1894

For more details circle NED-250 L3 on enclosed inquiry slip

Increase Your profits by knowing more about your costs

THE *Simplex* COST RECORDER

gives you 100% accounting of your employees' Time

STOPS TIME LEAKS

PRODUCES INDISPUTABLE RECORDS

REDUCES NON-PRODUCTIVE TIME

Your records show exact starting and ending time for each job... accurate printed records made by the employee, quickly, easily, without loss of time. Simplex Cost Recorders are fully automatic, and give you fast, accurate time computation for payroll make-up, as well as cost accounting.

SIMPLEX TIME RECORDER CO., Gardner, Mass., Dept. N-11
Please give us more information on:
☐ Cost Recorder ☐ Time Cards ☐ Electric Time Stamp
☐ Watchman's Clock ☐ Time Card Files ☐ Time Card Racks
Firm.....
Name.....
Street & No.....
City..... State.....

For more details circle NED-251 L3 on enclosed inquiry slip

WALL RACK
for coats and hats

Four sizes of Office Valet wall racks are available in packaged units for accommodating coats and hats. They are mounted directly on the wall and can be positioned at various heights. Three spaced coat hangers and three individual hat spaces per running foot of length are provided. Construction is of welded square tubular furniture steel, with perforated and embossed shelves. Colors offered are brown, gray and green. Made by **Vogel-Peterson Co.,** Dept. P-8, 1127 W. 37th St., Chicago 9, Ill.

For more details circle NED-252 L3 on enclosed inquiry slip

DELAY RELAYS
range is 2 to 90 seconds

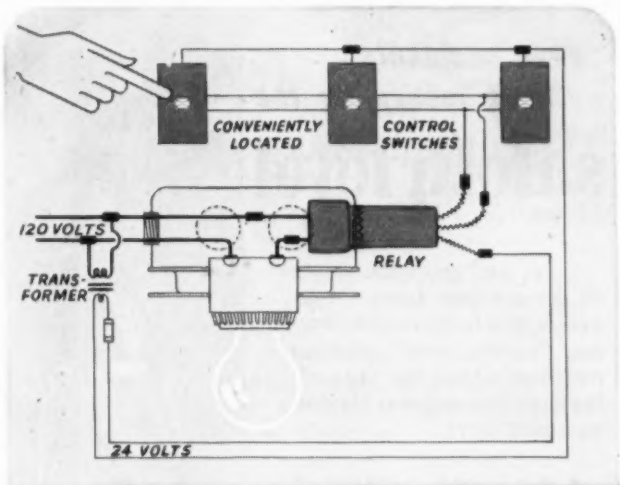
Hermetically sealed miniature delay relays are not affected by altitude or humidity variation, withstand vibration, and are available with delays from 2 to 90 seconds. They can be supplied for all standard heater voltages and have contact rating of 2 amp on 115-v noninductive ac. They are ambient compensated for temperatures from −50 to 70° C. Made by **Amperite Co.,** Dept. NE, 561 Broadway, New York 12, N. Y.

For more details circle NED-253 L3 on enclosed inquiry slip

MAGNETIC CHIP RETRIEVER
removes chips from drill holes

Chips in blind drill and tap holes on production lines and in assembly work can be removed with the use of the GS magnetic chip retriever. Unit is also useful for testing coated surfaces for magnetic properties of under material. No larger than a fountain pen, it is mounted in a fiber nonconductive case with a pocket clip. Model 15, with ¼-in. diameter is priced at $3.75, while model 16 measures ⅜-in. diameter and costs $6.50. Made by **General Scientific Equipment Co.,** 2701 W. Huntingdon St., Philadelphia 32, Pa.

For more details circle NED-254 L3 on enclosed inquiry slip



NEW Remote Control Relay System has many industrial uses

● Originally designed for residential applications, this new, Low Voltage Control System has dozens of industrial applications. Relays are controlled from any number of conveniently located switches operating on 24 volts. Only the load circuit is at 120 volts.

Write for Bulletin 1124. Square D Company, 6060 Rivard Street, Detroit 11, Michigan.

SQUARE D COMPANY

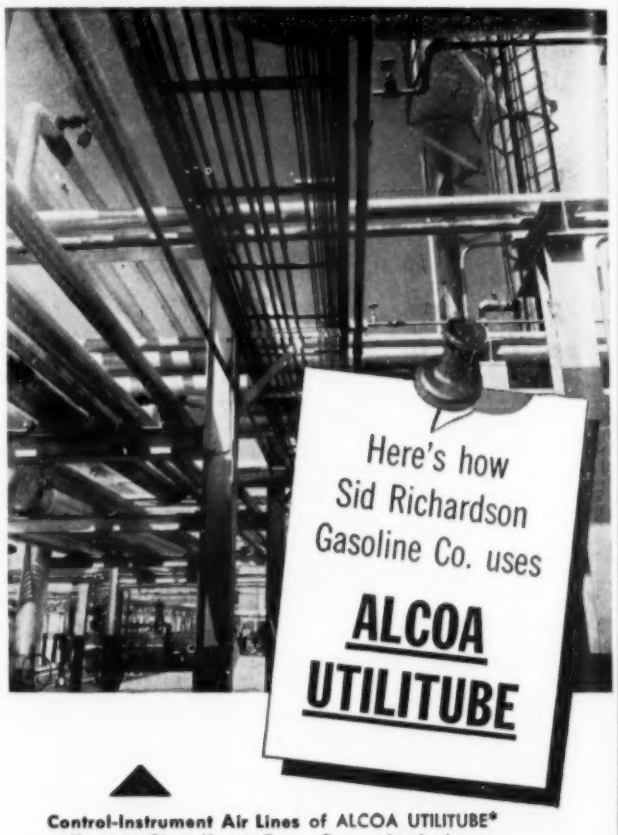
For more details circle NED-255 L3 on enclosed inquiry slip

if the load is light screen it right with a MIGHTY-MITE

SINGLE & DOUBLE DECK MODELS
Now, throw away time consuming hand screens. Mighty-Mite will efficiently, economically screen coarse or fine materials up to 15 tons per hour. Send for literature today.
Makers of Famous Seco Vibrating Screens

SCREEN EQUIPMENT CO., INC.
1750 WALDEN AVE., BUFFALO 25, NEW YORK

For more details circle NED-256 L3 on enclosed inquiry slip



Control-Instrument Air Lines of ALCOA UTILITUBE* at Keystone Plant, Kermit, Texas. Exposed to hydrogen sulfide fumes since installation in 1948, aluminum tubing and fittings have required no maintenance, show no apparent corrosion. Air, dried by Alcoa *Activated** Alumina, operates at 80° F and 25 psig.

ALCOA UTILITUBE is aluminum coiled tube made of a specially selected alloy to provide low cost, easy workability and high fatigue strength.

ALCOA Utilitube offers savings up to 40 per cent over copper . . . has excellent on-the-job forming and flaring properties. It is available in economical, long lengths up to 1,000 feet or more, depending on size. It stands up well under vibration . . . has high resistance to most industrial atmospheres and to many liquids and gases.

In petroleum service, ALCOA Utilitube will not form sludge or gum . . . will not discolor or contaminate the fluid it carries.

ALCOA Utilitube is versatile. Use it for air for pneumatic and hydraulic control circuits—gasoline and fuel oil for internal combustion engines—lubricating oils for engines and machines—fluids for hydraulic systems.

For complete details, write for the new booklet: "Alcoa Utilitube."

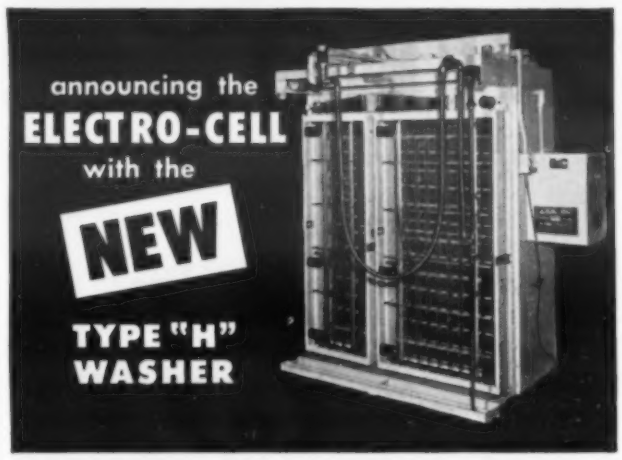
ALUMINUM COMPANY OF AMERICA
1002-L Alcoa Building, Pittsburgh 19, Pa.

*Registered Trademark, Aluminum Co. of America

Alcoa Aluminum

ALUMINUM COMPANY OF AMERICA

For more details circle NED-257 L3 on enclosed inquiry slip



Another "first" from AAF. The Type "H" Washer as an integral part of an ELECTRO-CELL precipitator provides "push-button" control of the cleaning operation. The washer travels on an overhead trackway which keeps it operating freely. The vertical header carrying the spray nozzle is rotated at each end of the travel to provide the necessary 5 degree lead to assure thorough cleaning of the plates.

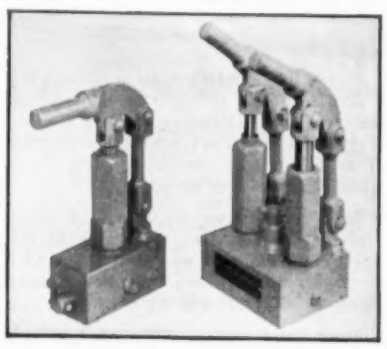
Write for Bulletin No. 252 giving technical data and descriptive information on this latest AAF achievement to:

American Air Filter
COMPANY, INC.
391 Central Avenue, Louisville 8, Kentucky
American Air Filter of Canada, Ltd., Montreal, P.Q.

For more details circle NED-258 L3 on enclosed inquiry slip

HAND HYDRAULIC PUMP

Single and Double Designs To 20,000 Pounds



Interchangeable Pistons ⅜-½-¾ inch
★
Integral Release Valve
★
Unit Reservoir 360 cu. in.

Pressure range is 3,000 to 20,000 pounds. Pipe connections measure ¼ inch. Handle length is 18 inches. Weight is 8 to 18 pounds. Can be bolted or welded into position. We specialize in hand pump units to operate in temperatures from minus 65 F to plus 160 F and with any capacity reservoirs required.

WILLIAM S. PINE
1635 E. 22nd St., Los Angeles 11, Calif.

For more details circle NED-259 L3 on enclosed inquiry slip

Don't Say Resistors

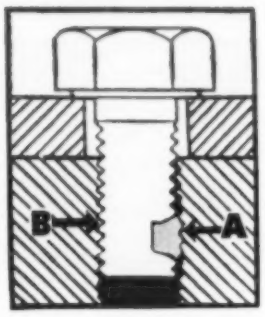
Specify **DAVOHMS**
The Complete, Superior Line of Precision
WIRE WOUND RESISTORS
Made Only By **DAVEN**
ELECTRONIC SPECIALISTS FOR MORE THAN A GENERATION

- Accuracies to .05%
- All Temperature Coefficients
- All Types of Mountings
- Hermetically Sealed Types
- Feature Resistance Wire.
- Specially Coated with Tough Formex Insulation
- Manufactured to Famous Daven Standards of Precision
- One Recognized Source for All Of Your Requirements in Resistors

Write for detailed bulletin
THE **DAVEN** CO.
199 Central Avenue • Newark 4, N. J.

For more details circle NED-260 L3 on enclosed inquiry slip

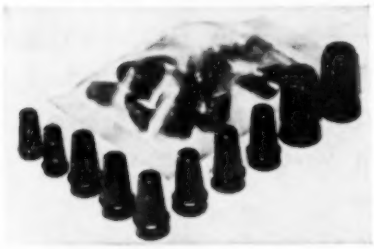
LOCKING SCREWS & BOLTS
fasteners lock when stopped



Holtite-Nylok one-piece self-locking screws and bolts employ a nylon insert which conforms to the curvature of the screw threads to provide a locking action when stopped. Locking seated or unseated, the reuseable screws and bolts act as a seal for gases or liquids, do not harm mating thread of parts, resist vibration and can be used on such soft metals as aluminum and die castings without damaging them. They can be used at temperatures from minus 50 to plus 250° F. Photo shows nylon plug (A) which sets up lateral thrust to smoothly wedge mating threads together (B). Made by **Continental Screw Co.,** 485 Mt. Pleasant, New Bedford, Mass.

For more details circle NED-261 L3 on enclosed inquiry slip

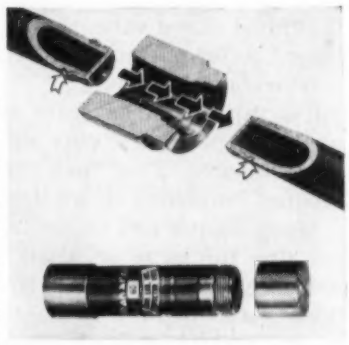
WIRE CONNECTORS
assortment is packaged



Ten assorted Bakelite wire connectors are available packaged in a printed polyethylene bag. Assortment consists of two No. 13, six No. 14 and two No. 16 connectors. They will accommodate two wires as small as No. 18 solid or stranded and combinations as large as three No. 10 solid or stranded wires. Made by **Metalectrics, Inc.,** Dept. A, 677 Broadway, New York 12, N. Y.

For more details circle NED-262 L3 on enclosed inquiry slip

RENEWABLE FUSES
improved construction lengthens life

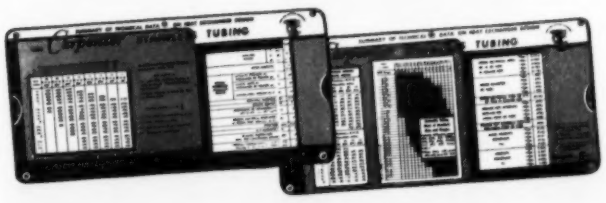


Improved method for securing ferrule fitting to fiber barrel on Monarch 30 and 60-amp renewable ferrule fuses does away with pin or rivet type juncture previously used. In the improved process, threaded ferrule fitting, a screw machine part, is slightly bell mouthed to slip over turned end of fiber tube. After it is threaded on, a die is passed over barrel, forcing brass to flow into fiber and form a solid junction. Fuses are made by **Monarch Fuse Co.,** 112 E. First St., Jamestown, N. Y.

For more details circle NED-263 L3 on enclosed inquiry slip

HEAT ON? **TRANSFER IT QUICK** *

with this Super Slide Chart



*Get the information you need on physical properties, sizes and gauges, cross-sectional area, velocity constants, pressure, weights and other technical data on Carpenter Stainless Tubing for Heat Exchanger applications. It's all condensed in this handy slide chart. Write for it today, no obligation of course.

THE CARPENTER STEEL COMPANY
Alloy Tube Division, Union, N. J.

For more details circle NED-264 L3 on enclosed inquiry slip

NOW! **A full-fledged fork truck at 1/2 the cost!**

There's nothing like it on the market! Lewis-Shepard's SpaceMaster Model "J" *is a real fork truck* . . . yet it sells for ½ the price of a conventional electric truck. So you get full L-S Fork Truck advantages—lubricated-for-life feature, superior L-S Hydraulics, proven L-S dependability—*plus* these exclusive extras!

- **Maximum Maneuverability:** Pivots on the center of its front axle
- **Exclusive Steering-Wheel Drive:** Provides extra stability—mast is directly over front wheels
- **Exclusive Foot Controls:** Both operator's hands are free for steering
- **High-Capacity-to-Gross-Weight:** Ideal for operation where floor loads are limited
- **Lowest Cost Operation:** Model "J" users say, "A dime-a-day to run a 'J'!"

Add all these advantages to the low initial cost and you'll see why the "J" is ideal for low floor loads, cramped areas and low budgets.

WRITE TODAY for full information!

LEWIS-SHEPARD
232-11 Walnut St., Watertown 72, Mass.

For more details circle NED-265 L3 on enclosed inquiry slip

Is this the tire for your needs?

This is the All Service cushion-type tire—one of the many types in the complete line which Goodyear makes to fit every individual need.

The All Service tread is designed to give you extra traction and durability. The cushion construction means easier riding, less fatigue for the operator—lower maintenance, too.

It is a product of more than fifty years of Goodyear leadership in building outstanding tires for every type of vehicle.

Selection of the right tire for the job at hand can result in big savings. Goodyear will be glad to send a fully qualified technical expert to your plant—to analyze your operation and to recommend the best tire for your particular problem. No charge, of course. Just write: Goodyear, Industrial Tire Sales, Akron 16, Ohio.

We think you'll like "THE GREATEST STORY EVER TOLD" every Sunday—ABC Radio Network
THE GOODYEAR TELEVISION PLAYHOUSE every other Sunday—NBC TV Network

GOODYEAR
INDUSTRIAL TIRES
All Service—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

For more details circle NED-266 L3 on enclosed inquiry slip

EX-CELL-O HYDRAULIC POWER UNITS

For Special Purpose Machines

Ex-Cell-O Quill-Type Hydraulic Power Units provide a compact, flexible source of power for feeding, rotating and retracting cutting tools. They are especially suitable for automatic drilling, reaming counterboring operations. Three standard units are available—styles 28-A, 21 and 20, shown below. For full information send for Bulletin 45828.

53-9

EX-CELL-O CORPORATION
DETROIT 32, MICHIGAN

For more details circle NED-267 L3 on enclosed inquiry slip

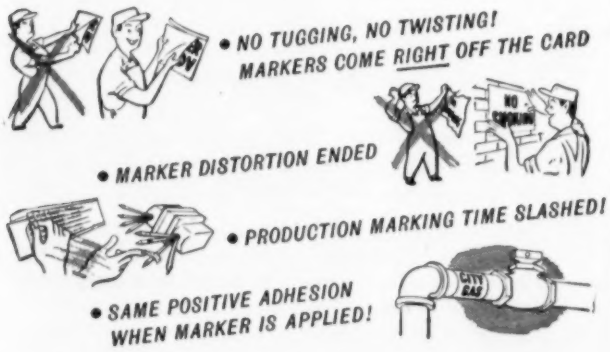
NOW—
IT'S OFF LIKE A STREAK!

NEW TIME-SAVING
BLUE STREAK®
RELEASE COATING

Exclusively on BRADY ★ Wire Markers
★ Special Markers ★ Pipe Markers
★ Safety Signs ★ Quik-Masks
★ Container Markers ★ Fluid Line Markers
★ Write-On Labels ★ Stencils

These Brady Products were always good . . . New BLUE STREAK Release Coating makes them *great!* Now *standard* on all Brady Products, BLUE STREAK permits instantaneous and *practically effortless* removal of Brady Markers and Masks from Brady Dispenser Cards.

It ends distortion that USED to result from twisting and tugging when trying to pull Markers off old-style Cards. You will cut your marking costs because BLUE STREAK reduces application time as much as 90%!



See for yourself how BLUE STREAK will cut your marking, masking and labeling costs. Write today for FREE, useful literature and BLUE STREAK Demonstration Kit.

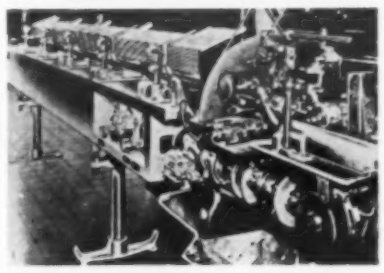
WIRE MARKERS · PIPE MARKERS · SAFETY SIGNS · AISLE MARKERS · MASKS & STENCILS · PRINTED ROLL TAPES

MANUFACTURERS OF SELF-STICKING PRODUCTS
W. H. BRADY COMPANY
793 W. Glendale Ave. • Milwaukee, Wisc.

No. 1 name and No. 1 source for Self-Sticking Industrial Products.

For more details circle NED-268 L3 on enclosed inquiry slip

PNEUMATIC BAR FEED
has new machine applications and features magazine loading



Economies and efficiencies effected by use of the Lipe-Rollway automatic magazine loading pneumatic bar feed on Brown and Sharpe automatic screw machines can now be realized on abrasive saws, cutoff machines, punch presses and centerless grinders. By eliminating frequent hand loadings, it allows the operator to devote more attention to tooling, machine operation, inspection and running up to ten machines.

Feed is actuated by air valves and cylinders. Magazine along one side of the feed tube holds from nineteen 5/8-in. bars to ninety-six 1/8-in. bars up to 12 ft long. Machine feeds the entire bar through the screw machine or other machine, automatically ejecting the end remnant before feeding the next bar. Made by **Lipe-Rollway Corp.,** 710 Emerson Ave., Syracuse 1, N. Y.

For more details circle NED-269 L3 on enclosed inquiry slip

BULK MATERIALS WEIGHER
1 gram to 10-lb weighments are possible with 1/2-gram accuracy

Molding powders, tobacco, seeds and chemicals are typical products handled by this EWS net weighing machine which incorporates an even balance lever system capable of 1/32-oz sensitivity. Magnified 16:1 ratio visual indicator facilitates reading fractional ounce variations. After operation is started initial bulk fill is rapid, and as scale approaches exact weight, photoelectric control cuts off fast feed and slow-feeds final amount. Feed then cuts off and bucket dumps product into chute to waiting container.

Many hopper and feeder trough combinations adapt machine for large or small capacities. Weighments from 1 gram up to 10 lb are standard, and adaptations make 50-lb weighments possible. With free-flowing materials, for 1/2 to 1-lb quantities, 25 weighments per minute are possible and accuracies down to 1/2-gram have been obtained. Made by **Exact Weight Scale Co.,** 930 W. Fifth Ave., Columbus 8, O.

For more details circle NED-270 L3 on enclosed inquiry slip

NOW
one piece molded phenolic case for the
No. 41 *Levolier*® SWITCH

shown actual size

• easier wiring
• better insulated
• exceptionally rugged
• unconditionally guaranteed

Your troubles are over when you specify a Levolier No. 41 Switch. It is the only switch unconditionally guaranteed against failure in lighting circuits. And NOW it has a new rugged one-piece molded Phenolic case that provides better insulation and makes wiring easier. Mechanism slips out of case exposing terminals with removal of mounting nut. 6 Amp, "T" rated, 125 volts. Underwriters' Laboratories Inspected.

Send now for Catalog No. 49-A

McGILL® electrical specialties

McGILL MANUFACTURING CO., INC. 151 N. CAMPBELL ST. VALPARAISO, INDIANA

For more details circle NED-271 L3 on enclosed inquiry slip

MONEY! MINUTES! METAL!

Save all 3 with
B&W Steel Mechanical Tubing

B&W Steel Mechanical Tubing Bulletin shows you how hollowness makes a *saving* difference.

Write for Bulletin TB-352

TA-1806(LM)

THE BABCOCK & WILCOX COMPANY
TUBULAR PRODUCTS DIVISION
Beaver Falls, Pa. — Seamless Tubing; Welded Stainless Steel Tubing
Alliance, Ohio—Welded Carbon Steel Tubing

For more details circle NED-272 L3 on enclosed inquiry slip

Machine de-burring with **NOBUR** *pays BIG production dividends!*

NOBUR Tools *turn a slow bench operation into fast and efficient machine work!* Remove burrs on multi-walled parts with a smooth, clean cutting action that won't mar highly finished surfaces. Eliminate rejects from slow, costly hand work with files, scrapers and abrasives.

Nobur Tools are used on any lathe, drill press, portable drill or flexible shaft. Operation of the double-edge cutting blade is easy and safe . . . no skilled help is required, and the spindle *never needs to be stopped* for either de-burring or chamfering.

Nobur Tools cut freely on either hard or soft metals, are simple in construction and are made in sizes to cover a full range of hole diameters. ***NEW "DS" SERIES extends range of NOBUR applications to holes as small as 1/8" diameter. WRITE FOR FULL DETAILS TODAY!**

Parts like these quickly de-burred with

NO BUR TOOLS
NOBUR MANUFACTURING COMPANY
719B N. VICTORY BLVD., BURBANK, CALIF.

For more details circle NED-273 L3 on enclosed inquiry slip

NOW...DUMORE TOOLS

put former hand jobs on profitable, production basis

. . . with hand grinders

Dumore high-speed hand grinders are job-proved for high production grinding . . . from snagging castings to such operations as grinding bullet mold contours (as illustrated). Power-packed motors and perfect balance assure dependable, trouble-free, more profitable service. Choose from five sizes of DUMORE precision-built hand grinders (1/40 to 1/4 HP).

. . . with Dumore Flex-Shaft tools

Put the power in your hand and the power plant on the bench with a Dumore Flex-Shaft tool. Get extra control . . . reduce fatigue for steadier production. Made with high quality Dumore motors (1/20 to 1/4 HP), heavy-duty shafts and lightweight handpieces.

Dumore tools are stocked by leading industrial distributors everywhere.

DUMORE PRECISION TOOLS
The Dumore Company
1333 Seventeenth St. • Racine, Wis.

For more details circle NED-274 L3 on enclosed inquiry slip

Here's the easy way to spot railroad cars

It's no back-breaking job to move railroad cars—when a Link-Belt Car Spotter is on the job. One man can take two or three turns of rope on the motor-driven capstan—and spot cars right where they're wanted. Cuts loading and unloading time. Reduces demurrage charges. Two sizes: 5 and 10 hp, developing 5,000 and 10,000 pounds of rope pull, portable or stationary models.

Link-Belt offers a complete line of car spotters . . . also specializes in drum type puller applications.

Cuneo Press, Chicago, has used Link-Belt Car Spotters for 20 years.

LINK-BELT

CAR SPOTTERS

Write today for fact-packed Book 2092

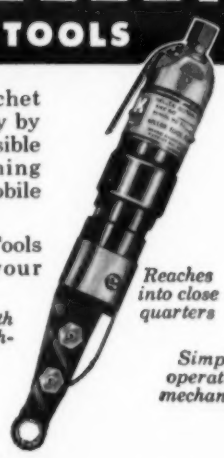
LINK-BELT COMPANY: Plants: Chicago, Indianapolis, Philadelphia, Colmar, Pa., Atlanta, Houston, Minneapolis, San Francisco, Los Angeles, Seattle, Toronto, Springs (South Africa), Sydney (Australia). Sales Offices in Principal Cities. 13,161

For more details circle NED-275 L3 on enclosed inquiry slip

Tighten those hard-to-reach bolts WITH **KELLER AIR TOOLS**

Keller air-powered Ratchet Wrenches make tough jobs easy by reaching into otherwise inaccessible places . . . such as attaching accelerator pedals on an automobile assembly line.

These and other Keller Air Tools are waiting to help solve your production problems.



Reaches into close quarters

Can be used with built-in or detachable sockets

Simple operating mechanism

Open-end design fits over hydraulic tubing and piping

Send for **illustrated descriptive bulletin and detailed information**

Keller Tool Company

GRAND HAVEN, MICHIGAN

For more details circle NED-276 L3 on enclosed inquiry slip

Guardian of industry!

Quaker

QUA-FLEX FIRE HOSE

It's leak-proof and dependable! It gets water to the fire yet protects your plant equipment from leak-damage. Quaker Qua-Flex Fire Hose is cotton-rubber lined . . . yet is as flexible as linen hose. It fits any rack or reel . . . folds flat, easy to handle and store. Every length is tested to 300 P.S.I. The jacket is carefully woven of long-staple, sturdy cotton to permit the use of this hose again and again. Here's quick-drying ruggedness, long wear and big value! Factory Mutual approved. Insist on Quaker Qua-Flex!

Write for name of nearest distributor

QUAKER RUBBER CORPORATION

DIVISION OF H. K. PORTER COMPANY, INC.

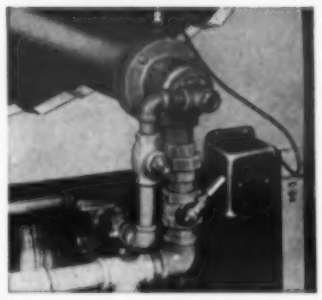
OF PITTSBURGH

Dept. D, Philadelphia 24, Pa.

Branches in Principal Cities

For more details circle NED-277 L3 on enclosed inquiry slip

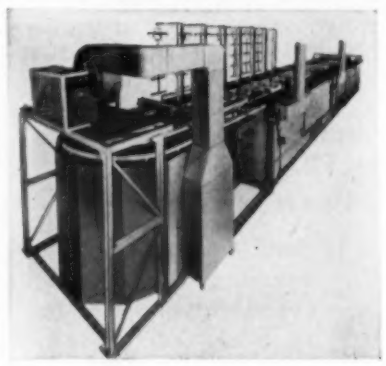
RADIANT TUBE GAS BURNER for controlled atmosphere furnaces



For furnaces where control of atmosphere is important, series 122 even-glow sealed-in burner fits 4-in. or larger radiant tubes, passing through the furnace and discharging combustion products outside the furnace. Installation requires little gas pressure and, in a straight tube, does not produce hot spots. After the desired air/gas ratio has been initially set with an orifice-limiting gas valve, combustion rate is fully controlled by a single air valve regulating flow over a gas venturi. Illustration shows a burner fitted with electrical ignition system, making it possible to light from the front. However, this is optional, and burner can also be torch lit from the discharge end. Three sizes are available, all having a front end observation port for flame inspection. Made by **North American Mfg. Co.**, 4453 E. 71st St., Cleveland 5, O.

For more details circle NED-278 L3 on enclosed inquiry slip

AUTOMATIC PLATING MACHINE built to user specifications with simplified conveying and transfer



Transfer and conveying system around which this fully automatic electroplating machine is built has only longitudinal and vertical reciprocating movements. All working parts are mounted on a central carriage which moves on a single track and is actuated by a hydraulic cylinder. This supplies horizontal motion to the work through the cleaning and plating tanks and drying oven which surround the carriage.

Shaft running the length of the carriage is fitted with gears which are meshed to racks on the work lifting arms to provide the vertical motion which lifts and lowers work into and out of tanks. Synchronizing these two movements transfers work through all operations and back to loading station for removal.

Plating baskets or racks are hooked to carriers which rest on two cathode rails which are electrified only where current is required. Unit is prefabricated to customer specifications or needs and can be shipped in one, two or more sections. Made by **Wagner Bros., Inc.**, 426 Midland Ave., Detroit 3, Mich.

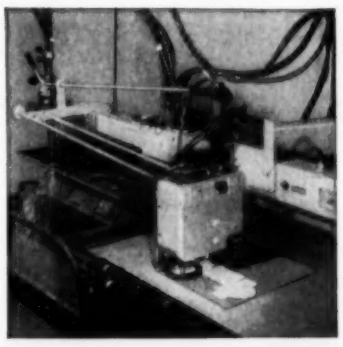
For more details circle NED-279 L3 on enclosed inquiry slip

SIMPLIFY **Your Shape-Cutting Jobs with the...**

OXWELD Automatic Tracer

Trade-Mark

- Positive templet contact... electronic steering control ... maximum tracing accuracy
- Templets are easy to make, low-cost
- No kerf allowance required in templet
- Dynamic braking prevents overruns
- Local or remote controls ... simple to operate



With an OXWELD Automatic Tracer to guide your oxygen-cutting machine, you need never forego the advantages of templet tracing because of time or cost. Just cut actual size templets out of thin plastic sheet with scissors—that's all! Tracer follows practically any templet shape within extremely close tolerances. Drive action is smooth and steady with both single- and multiple-blowpipe setups. Write today for free booklet F-8086.

LINDE AIR PRODUCTS COMPANY

A Division of Union Carbide and Carbon Corporation

30 East 42nd Street UCC New York 17, N. Y.

Offices in Other Principal Cities

In Canada: DOMINION OXYGEN COMPANY, LIMITED, Toronto

The term "Oxweld" is a registered trade-mark of Union Carbide and Carbon Corporation.

For more details circle NED-280 L3 on enclosed inquiry slip

This low-cost, portable pump will MOTORIZE your hydraulic equipment

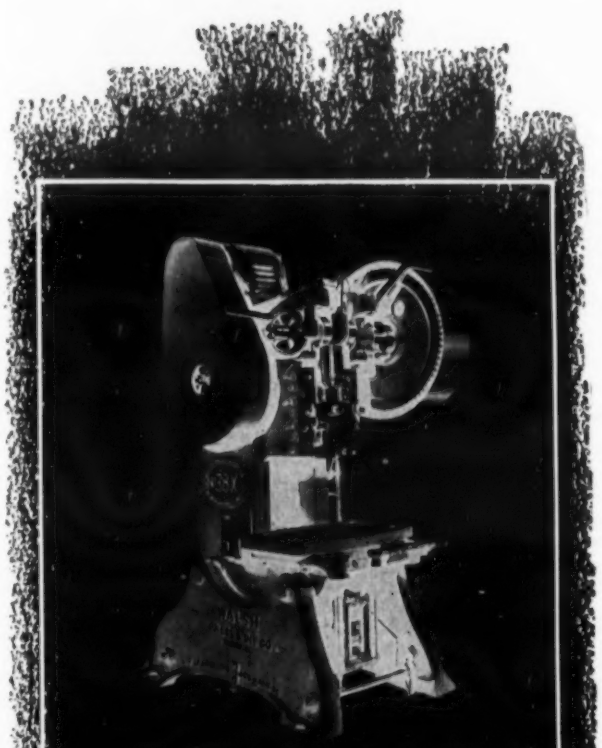
Eliminate costly hand pumping: This electrically-driven pump serves one or more rams. Production zooms — sometimes it triples. Great on presses, pipe benders, etc. Write for catalog. Buy from leading supply houses.

Blackhawk Mfg. Co., Dept. P 14113
Milwaukee 1, Wis.

- P-182 Pump (above) combines motor, valves, pump and oil reservoir in one compact unit.
- 10,000 p.s.i. hydraulic pressure. Weight—only 84 lbs.
- Low cost —

BLACKHAWK

For more details circle NED-281 L3 on enclosed inquiry slip



WALSH PRESSES

Rugged as the Rockies

Some made in 1907 with rugged dependability are *still* operating at a profit.

Wide selection of sizes from 6-65 tons . . . STOCK to 4 weeks delivery.

24 HOUR REPAIR *SERVICE*

See Bulletin 353 for more details.

WALSH PRESS & DIE CO.

4709 W. Kinzie St. • Chicago 44, Illinois

EStebrook 8-6700

Division of

AMERICAN GAGE and MACHINE CO.

SIMPSON ELECTRIC COMPANY SIZE CONTROL COMPANY

WALSH PRESS & DIE COMPANY

For more details circle NED-282 L3 on enclosed inquiry slip

Easy wire-pulling
with New G-E WHITE rigid conduit

New G-E WHITE rigid steel conduit features easy wire-pulling, easy bending, and improved corrosion protection. This new conduit is lined with a protective coating containing an anti-friction agent that speeds wire-pulling. The exterior is protected by the "metallizing" process, which bonds a controlled, uniform coating of pure zinc to the conduit, threads and all, without hardening it. Try new G-E WHITE conduit on your next job. Section C30-1161, Construction Materials Division, General Electric Company, Bridgeport 2, Connecticut.

New G-E WHITE

You can put your confidence in—

GENERAL ELECTRIC

For more details circle **NED-283 L3** on enclosed inquiry slip

You Just Can't File Away These Problems...

BLAST CLEANING

...of bridges, buildings, tanks, structural work

Pangborn Blast Cleaning Machine—Cleans tanks, bridges, structures quickly and economically. Ideal for maintenance and other jobs, such as removal of dirt, rust, etc. Six sizes, stationary or portable, $188 and up.

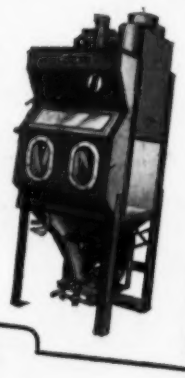
...of small castings, forgings, stampings, heat treated parts.

Pangborn Blast Cabinet—Saves time and money in cleaning small metal parts, removing rust, scale, grime, old paint, etc., in a few seconds. Perfect for producing clean, smooth surfaces on pieces 60" x 35" in size. Models from $319 and up.

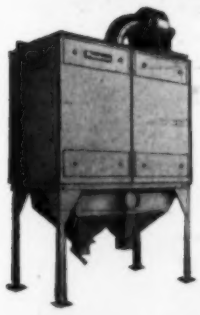
PRECISION FINISHING

...of molds, dies, tools

Pangborn Hydro-Finish Cabinet—Removes scale and directional grinding lines . . . holds tolerances to .0001" and prepares surfaces for painting or plating. Liquid blast reduces costly hand cleaning and finishing of molds, dies, tools, etc. Models from ..... $1410 and up.



CONTROLLING DUST



...at the source of origin

Pangborn Unit Dust Collector—Traps dust at the source. Reduces maintenance costs . . . keeps plant clean and improves community relations. Allows reclamation of valuable material. Models from ..... $286 and up.

BUT YOU CAN MAIL THIS COUPON TO PANGBORN FOR HELP IN SOLVING THEM!

Pangborn

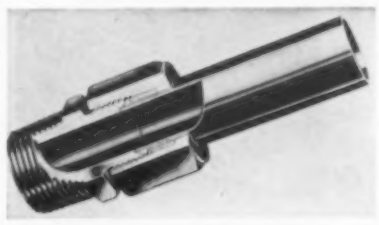
Look to Pangborn for the latest developments in Blast Cleaning and Dust Control equipment

☐ Blast Cleaning Cabinets
☐ Blast Cleaning Machines
☐ Unit Dust Collectors
☐ Hydro-Finish Cabinets

PANGBORN CORP., 2400 Pangborn Blvd., Hagerstown, Md.
Gentlemen: Please send me more information on the equipment I've checked. To be used for.....
.....
Name .....
Company .....
Address .....
City .....Zone....State.....

For more details circle **NED-284 L3** on enclosed inquiry slip

FLARELESS FITTING
for heavy or thin wall tubing



Steel, brass, aluminum and stainless steel flareless fittings are made in all popular shapes in sizes from ⅛ to 2 in. They are suitable for heavy or thin wall tubing, neither of which is cut or gouged when fittings are tightened. Capable of handling anything that flows, fittings hold twice tube bursting pressures up to 50,000 psi, depending on size of fitting used. Performance exceeds that required by JIC hydraulic standards and AN-F-47 and MIL-F-5506-A. Fittings can be reused by replacing a sleeve. Made by **Aircraft Fitting Co.**, 1402 E. 30th St., Cleveland 14, O.

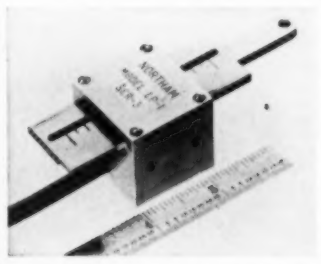
For more details circle **NED-285 L3** on enclosed inquiry slip

DRUM LINER
is double wall insulating type

Usable with either steel or fiber drums, double wall polyethylene drum liner is available in flat-bottomed styles for 15, 30, and 55-gallon drums. By providing an insulating air space, the double wall feature also increases strength and aids distribution of shocks and stresses. See-Safe Multiwall Airliner liner is transparent and chemically inert, and is useful for handling such difficult materials as acids and alkalies and foods. It is made in 0.015 and 0.02-mil polyethylene, giving wall thicknesses of 0.03 and 0.04 mils. Made by **Mehl Mfg. Co.**, Dept. DR, 2057 Reading Rd., Cincinnati 2, O.

For more details circle **NED-286 L3** on enclosed inquiry slip

LINEAR POSITION TRANSDUCER
for remote indication recording

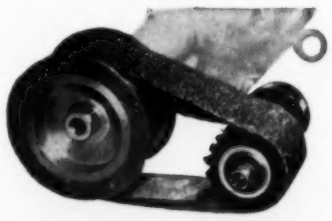


Remote measurement and recording in aircraft and engine test work as well as production inspection and gaging are possible applications of Northam model LP-1 linear position transducer which converts linear motion or position into a proportional electrical signal. Based on magnetic reluctance principle, unit will operate in alternating current carrier systems from 60 to 10,000 cycles accurate within 1 per cent of range and with virtually unlimited resolution. When operated in bridge circuit, full scale output is plus-minus 40 mv per volt, and maximum excitation is 7 v. Standard slide travel ranges are from plus or minus ½ to 2 in. Hermetically sealed model for extreme ambient conditions is available for process control and rocket testing. Made by **North American Instruments Inc.**, 2420 N. Lake Ave., Altadena, Calif.

For more details circle **NED-287 L3** on enclosed inquiry slip

PORT-A-BELT Grinding... Cuts finishing time 90% on aluminum castings

Source: THE CARBORUNDUM COMPANY Niagara Falls, New York



A finishing operation on aluminum castings, which formerly required 30 minutes per casting, is now done in 3 minutes with CARBORUNDUM's abrasive belts and "Port-A-Belt" Grinding Attachment. Ten times as many castings are finished per hour. Of course this 90% saving in time is an outstanding example of "Port-A-Belt" economy. But you may well be surprised at the savings you can make with this tool, which "brings the abrasive tool to the work."

To help you cut production time and costs, four models of the "Port-A-Belt" Attachment are available. Used with long-life abrasive belts from the complete line by CARBORUNDUM, these new grinding tools bring the versatility and economy of belt grinding to such jobs as cleaning and finishing castings, grinding small-radius die and mold areas, contours, welds, edges, etc.

All four models fit nearly all standard make horizontal-spindle portable-grinders—air or electric. They offer the high cutting rate and long belt life made possible by the serrated surface of the "61" contact Wheel. They are light, easy-to-handle—yet sturdy, with nothing to get out of adjustment.

Get full details on "Port-A-Belt" Grinding Attachments and abrasive belts from your CARBORUNDUM distributor or salesman. Or write to us at Dept. NED 82-319.

"Carborundum" and "Port-A-Belt" are trademarks of The Carborundum Company, Niagara Falls, New York

82-319

For more details circle **NED-288 L3** on enclosed inquiry slip

production flows smoothly...
at top speed, at all times, yet free of rejects

Kester makes 62 different fluxes to meet any requirements. Why not write our Technical Department for full information?

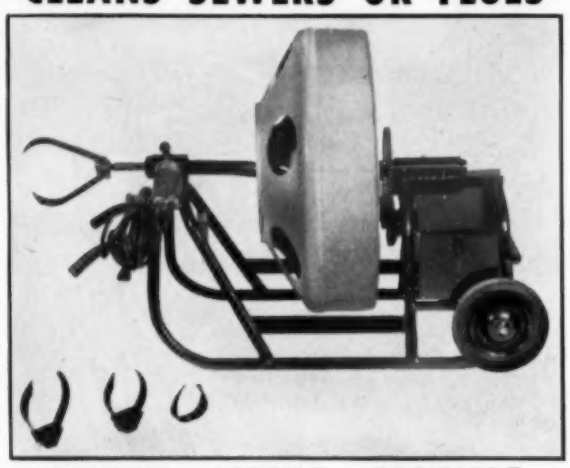
KESTER SOLDERING FLUX

KESTER SOLDER COMPANY
4249 Wrightwood Ave., Chicago 39
Newark 5, N. J. • Brantford, Canada

KESTER SOLDER

For more details circle **NED-289 L3** on enclosed inquiry slip

CLEANS SEWERS OR FLUES



STURDY MOBILE PORTABLE

Drains are unclogged in minutes with Clean-Rite rugged improved drain cleaner. Complete positive chain drive permits machine to rotate in either direction with or without power, giving nonslipping operation. High carbon steel knives clean entire diameter of pipe or flue, compressing to go through small openings yet expanding to fit large diameters. Very essential to your Maintenance Department. Very profitable equipment. A big money saver. The new Clean-Rite was developed in many years in the sewer cleaning business and is designed to do a more thorough job in much less time. Approved and admired by all professional sewer cleaners. You can not buy a better one.

GROVE MACHINE WORKS
208 Grove St., Dept. NED, Bowling Green, Ohio

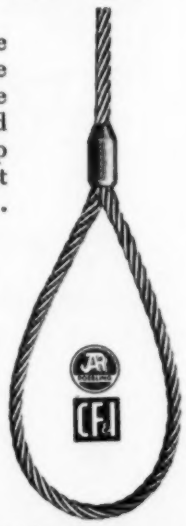
For more details circle **NED-290 L3** on enclosed inquiry slip

ALL-PURPOSE SLINGS

with new Roebling Tapered Sleeve Splice . . . stronger . . . cost less!

NEW ROEBLING All-Purpose Slings with the Tapered Sleeve Splice are delivered ready for the job. The unique rolled loops and tapered sleeve attachments develop full catalog strength of rope... cost less than ordinary tucked splices... save "splicing your own".

Made of Roebling "Blue Center" Steel Wire Rope, All-Purpose Slings are unsurpassed for toughness and dependability... flexible and easy to handle... come in all standard lengths and sizes. Send for full information and for the free "Sling Data Book." John A. Roebling's Sons Corporation, Trenton 2, New Jersey.



A subsidiary of The Colorado Fuel and Iron Corporation

ROEBLING

For more details circle **NED-291 L3** on enclosed inquiry slip

The type Tapping Screw you require will vary with: 1. kind of material; 2. thickness of material; 3. the method used for making the hole.*

Lamson Tapping Screws are precision made for maximum holding even in thin material, fully hardened to permit the thread crests to form clean threads without stripping hole. Available in a wide range of head and point combinations. A "special" Tapping Screw to many . . . is a "stock" item at Lamson.

This information is available in tabular form for easy reference. Write for as many copies as you need.

The LAMSON & SESSIONS CO.
1971 West 85th St. • Cleveland 2, Ohio
CLEVELAND AND KENT, OHIO • BIRMINGHAM • CHICAGO

For more details circle NED-292 L3 on enclosed inquiry slip

BUCKET ELEVATORS

Jeffrey Vertically Encased, Super-Capacity Bucket Elevator in a large stone quarry. For complete information on all types of Bucket Elevators, send for Catalog 850

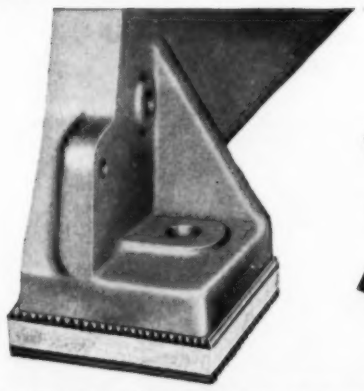
THE JEFFREY MANUFACTURING CO.
Columbus 16, Ohio

IF IT'S MINED, PROCESSED OR MOVED . . . IT'S A JOB FOR JEFFREY!

sales offices and distributors in principal cities

For more details circle NED-293 L3 on enclosed inquiry slip

It's SIMPLE To Control VIBRATION and NOISE with Elasto-Rib...



NO BOLTING

NO CEMENTING

LOW COST

Elasto-Rib effectively stops transmission of vibration and noise by utilizing the elastic and damping properties of both cork and rubber.

It is fast and easy to install. For most machine applications, no bolts, lag screws or cement are required. Sheets 24" x 36" can be sawed or cut to size as needed.

New, illustrated booklet tells all about Elasto-Rib and how to install it. Ask for ER-701 and free sample.

THE KORFUND COMPANY, INC.
KORFUND VIBRATION CONTROL — SPRINGS — RUBBER — CORK
48-35P Thirty Second Place, Long Island City 1, N. Y.
In Canada: 510 Canal Bank, Ville St. Pierre, Montreal

For more details circle NED-294 L3 on enclosed inquiry slip

SMALL PROPANE TORCH
make use of bottled gas

Bantam model Bernz-O-Matic propane torch is instant-lighting at any temperature down to −30° F and burns steadily in any position. Burner gives a smokeless pencil-point flame that develops a temperature of 2300° F. Torch is 7 in. long and weighs 19 oz when full. Fuel cylinder is 2¾ in. diameter and burns about 10 or 12 hours, depending on flame size. When empty, the fuel cylinder is unscrewed from the burner head without tools and discarded, being replaced with a new cylinder. Burner head can be removed at any time, as a self-sealing valve prevents leakage. Made by **Otto Bernz Co.**, Dept. N-1, 280 Lyell Ave., Rochester 6, N. Y.

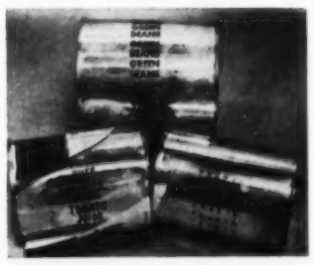
For more details circle NED-295 L3 on enclosed inquiry slip

SAFETY OVER-SHOE
has nonslip Neoprene sole

Molded from Neoprene, Tri-Vac industrial safety rubber assures safe footing on greasy or otherwise slippery floors through suction action of concentric cups on the sole. Neoprene fabrication also gives durability in the presence of oils, grease, acids and other chemicals. Because of inherent stretchability, three sizes fit all shoes from sixes to twelves. Interior is smooth for easy removal, and the rubber can be turned inside out for easy washing. Weight is 9 oz. Made by **Tingley Rubber Corp.**, Dept. D, 903 Ross St., Rahway, N. J.

For more details circle NED-296 L3 on enclosed inquiry slip

CODE & CONTENT MARKER
prints on side of round containers



Marking of code numbers and contents on the side of round cans and jars is function of imprinter which can be attached to all wrap-around type labeling machines. Machine marks at the same production rate and as part of the labeling operation without labor or separate handling. A black liquid ink is used. Made by **Rotary Imprinter, Inc.**, P. O. Box 31-N, Hillside 5, N. J.

For more details circle NED-297 L3 on enclosed inquiry slip

For more details circle NED-298 L3 on enclosed inquiry slip

By Makers of RELIANCE Precision-Built MOTORS

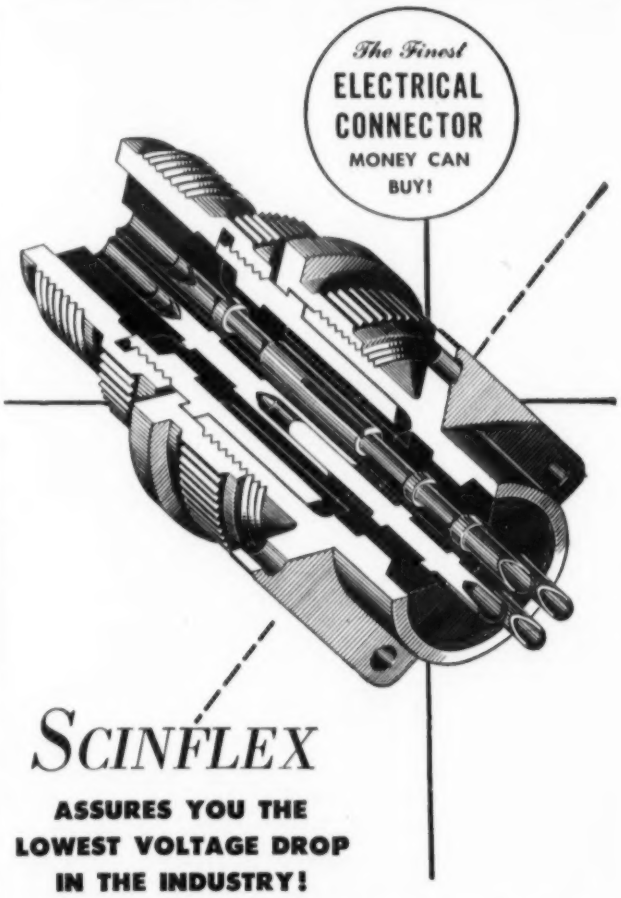
- **IMPROVES** quantity and quality of machine output.
- **DETECTS** machine troubles before costly repairs become necessary.
- **REDUCES** spoilage of materials in process.

This sturdy instrument gives accurate speed indications between 100 and 5000 rpm.—special scales available for other indications. Get all the facts—write for Bulletin A-2406 today! A-52

RELIANCE ELECTRIC AND ENGINEERING CO.
1082 IVANHOE ROAD • CLEVELAND 10, OHIO

Sales Offices in Principal Cities

For more details circle NED-299 L3 on enclosed inquiry slip



ASSURES YOU THE LOWEST VOLTAGE DROP IN THE INDUSTRY!

When operating conditions demand an electrical connector that will stand up under the most rugged requirements, always choose Bendix Scinflex Electrical Connectors. The insert material, an exclusive Bendix development, is one of our contributions to the electrical connector industry. The dielectric strength remains well above requirements within the temperature range of −67°F to +275°F. It makes possible a design increasing resistance to flashover and creepage. It withstands maximum conditions of current and voltage without breakdown. But that is only part of the story. It's also the reason why they are vibration-proof and moisture-proof. So, naturally, it pays to specify Bendix Scinflex Connectors and get this extra protection. Our sales department will be glad to furnish complete information on request.

• Moisture-Proof • Radio Quiet • Single Piece Inserts • Vibration-Proof • Light Weight • High Insulation Resistance • High Resistance to Fuels and Oils • Fungus Resistant • Easy Assembly and Disassembly • Fewer Parts than any other Connector • No additional solder required.

BENDIX SCINFLEX
ELECTRICAL CONNECTORS

Bendix
SCINTILLA MAGNETO DIVISION of Bendix AVIATION CORPORATION
SIDNEY, NEW YORK

Export Sales: Bendix International Division, 205 East 42nd St., New York 17, N. Y.
FACTORY BRANCH OFFICES: 117 E. Providencia Ave., Burbank, Calif. • Stephenson Bldg., 6560 Cass Ave., Detroit 2, Michigan • Brouwer Bldg., 176 W. Wisconsin Avenue, Milwaukee, Wisconsin • 582 Market Street, San Francisco 4, California.

For more details circle NED-300 L3 on enclosed inquiry slip

THERE are hundreds of different types of felt, and it is important to select the right one for each application. Felt is an engineering material, which can be, and should be, specified as closely as any other. We have a vast knowledge of all types of natural and synthetic fibres, and will be glad to collaborate with you in working out specifications. In many instances we have been able to solve such problems as premature breakdowns, leakage of lubricants, fast filtration, vibration absorption, and many others, by recommending exactly the right felt. Come to American with your felt problems.

American Felt Company
TRADE MARK

62 GLENVILLE ROAD, GLENVILLE, CONN.

▲ For more details circle **NED-301 L3** on enclosed inquiry slip ▲

FOR DESIGN ENGINEERS

POWER REDUCTION UNITS

- SPACE SAVING
- DESIGN FLEXIBILITY
- HIGH OVERHUNG LOAD CAPACITY
- DUST-PROOF, OIL-TIGHT OPERATION
- CUSTOM-ENGINEERING SERVICE

Get This New Catalog containing features, sizes, ratios, mountings, H.P. ratings, and specifications. Rynel offers a complete range of Speed Reducers and Gearmotors for custom-designing your particular applications.

With Rynel's exclusive Air Service, you can solve your power reduction problems overnight, with units exactly suited to your job requirements.

YOUR COPY FREE — Ask for your free copy of this new Catalog describing the Design-Flexibility obtained with the interchangeability of Rynel Power Reduction Units. Specify Catalog No. 312.

TELEPHONE A RYNEL ENGINEER — Sterling 4440
He Will Visit You The Same Day You Call.

MEMBER **DESIGNERS AND SUPPLIERS**

Double Reduction
Right Angle
Parallel Shaft
Shaft Mounted
Speed Reducers and Gearmotors

RYNEL Corporation

312 Miller Street • Sterling, Illinois

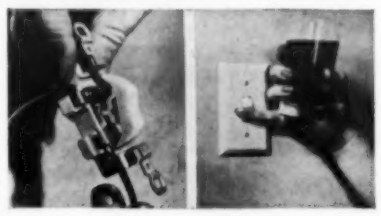
▲ For more details circle **NED-302 L3** on enclosed inquiry slip ▲

SHEET THICKNESS GAGE
is accurate to 0.000005-in.

Designed to give a continuous production check of materials thickness for paper, metal foil, and plastic sheeting manufacturing processes, Aerosensor thickness gage is accurate to 0.000005-in. Back pressure in an air jet is utilized as the measuring agent to actuate a recorder and provide a continuous production record. Unit will perform efficiently under wide variations of temperature and humidity, and is reported to be capable of maintaining its sensitivity on any type of heavy production machinery. Made by **Roanwell Corp.**, Dept. C-1, 662 Pacific St., Brooklyn 17, N. Y.

▲ For more details circle **NED-303 L3** on enclosed inquiry slip ▲

WALL SWITCH
easily operated and silent



To connect the Feller Feather Touch wall light switch it is necessary only to loosen the screws, insert wires under the raised contact plates, then tighten the screws. Switch responds to light touch and is silent in operation. Cover plate and switch segments are made of Bakelite ivory styrene plastic. Contacts are silver. It operates on 120 v, is rated at 15 amp and bears Underwriters' approval. Price for single pole model is $1.65 and for three-way model, $1.75. Distributed by **H. J. Theiler Corp.**, Dept. NE, 22 Ashmont Ave., Whitinsville, Mass.

▲ For more details circle **NED-304 L3** on enclosed inquiry slip ▲

PRESSURE REDUCTION VALVE
for closed-flame gas-oil burners

Designed for closed flame gas-oil burners, this single-seated spring-loaded direct-acting diaphragm valve automatically reduces high pressure to low pressure and maintains reduced pressure regardless of fluctuations on high pressure side. Any restriction forces valve wide open with self-cleaning effect of the seat. Built-in strainer safeguards working parts and aids in surrounding them with uniform temperature fluid to prevent sticking or seizing. Large bottom plug allows easy inspection and cleaning of parts. Available from **Eclipse Fuel Engineering Co.**, 1002 Buchanan St., Rockford, Ill.

▲ For more details circle **NED-305 L3** on enclosed inquiry slip ▲

20 FOOT BARS
Stored and Handled Efficiently

Simple, inexpensive overhead tramrail cranes make it easy to handle long, unwieldy bars and store them in racks where readily found. One man can easily and quickly place a heavy bar into or take out of storage and deliver to any point covered by the crane.

GET THIS BOOK!
BOOK NO. 2008
Packed with valuable information

Wherever materials are moved Cleveland Tramrail offers possibilities of tremendous savings.

•

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
6621 East 285th Street, Wickliffe, Ohio.

CLEVELAND TRAMRAIL

▲ For more details circle **NED-306 L3** on enclosed inquiry slip ▲

ALL V-BELTS STRETCH. With endless v-belts there's nothing you can do to take up this stretch once the motor has been "run-out". But with Veelos the adjustment is in the belt itself—even sliding motor bases are unnecessary.

Changing the length of each Veelos v-belt by just adding or removing links is the best, most efficient, way to keep the belts correctly matched. Using Veelos means that the job of adjustment is done easily and quickly... with the least amount of machine down-time.

Write for your copy of the Veelos Data Book—it gives file-worthy product and engineering facts which you should have handy. We'll be glad to send you a copy.

VEELOS THE LINK **V-BELT**

MANHEIM MANUFACTURING AND BELTING CO.
650 Manheim Street, Manheim, Pa.

Adjustable to Any Length • Adaptable to Any Drive

▲ For more details circle **NED-307 L3** on enclosed inquiry slip ▲

THE WIDE BAND POCKETSCOPE
MODEL S-14-B ® BY WATERMAN

Another Waterman POCKETSCOPE confirming the obsolescence of conventional oscilloscopes. Characterized by wide band amplifier fidelity without peaking as well as amazing portability. S-14-B POCKETSCOPE is ideal for laboratory and field investigation of transient signals, aperiodic pulses, or recurrent electrical wave forms.

Wt. 14 lbs. 12" x 6" x 7"

Vertical channel: 50mv rms/inch, with response within —2DB from DC to 700KC, and pulse rise of 0.35 μs. Horizontal channel: 0.3v rms/inch with response within —2DB from DC to 200KC, and pulse rise of 1.8 μs. Non-frequency discriminating attenuators and gain controls, with internal calibration of trace amplitude. Repetitive or trigger time base, with linearization, from ½cps to 50KC, with ± sync. or trigger. Trace expansion. Filter graph screen. Mu metal shield. And a host of other features.

WATERMAN PRODUCTS CO., INC. PHILADELPHIA 25, PA.
CABLE ADDRESS: POKETSCOPE

WATERMAN PRODUCTS INCLUDE:

S-4-A	SAR	PULSESCOPE
S-5-A	LAB	PULSESCOPE
S-10-B	GENERAL	POCKETSCOPE
S-11-A	INDUSTRIAL	POCKETSCOPE
S-14-A	HIGH GAIN	POCKETSCOPE
S-15-A	TWIN TUBE	POCKETSCOPE

Also RAKSCOPES, LINEAR AMPLIFIERS, RAYONIC TUBES and other equipment

WATERMAN PRODUCTS

▲ For more details circle **NED-308 L3** on enclosed inquiry slip ▲

if it's FLAMEFOIL*
It can't Blaze

Approved by all recognized safety authorities

Write us for samples you can test to your own satisfaction. Please specify the approximate weight of duck desired.

Manufactured under Patents Nos. 2,014,176 and 2,299,612 . . . . . others pending.

RESISTANT to
- **FIRE**
- **WATER**
- **WEATHER**
- **MILDEW**

PHILADELPHIA TEXTILE FINISHERS, Inc.
108 Lafayette St. Norristown, Penna.

PROCESSORS OF FLAME-RESISTANT FABRICS

▲ For more details circle **NED-309 L3** on enclosed inquiry slip ▲

WHEREVER RUBBER, PLASTIC OR FABRIC HOSES ARE USED

SAVE TIME and MONEY WITH RELIANCE "HOZ-FAS-NERS"

SEND FOR FREE ENGINEERING BULLETIN NO. 1 TODAY

MAKE HOSE CONNECTION IN 3 EASY STEPS

RELIANCE DIVISION

EATON MANUFACTURING COMPANY
OFFICES AND PLANTS • MASSILLON, OHIO
SALES OFFICES:
NEW YORK • CLEVELAND • DETROIT • CHICAGO
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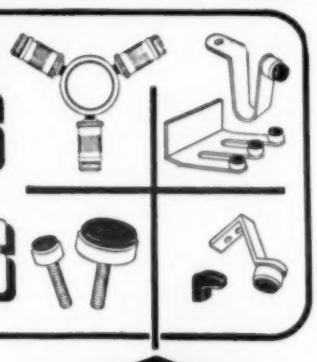
For more details circle NED-310 L3 on enclosed inquiry slip

SILVER GRAPHALLOY

BRUSHES AND CONTACTS



...for applications requiring low electrical noise, low and constant contact drop, high current density and minimum wear.

GRAPHALLOY TRADE MARK REG. U. S. PAT. OFF

EXTENSIVELY USED IN

SELSYNS • ROTATING THERMOCOUPLE and STRAIN-GAGE CIRCUITS • ROTATING JOINTS GUN-FIRE CONTROLS • DYNAMOTORS etc.

Wide range of grades available for standard and special applications.

Brush holders and coin silver slip rings available for use with Silver Graphalloy Brushes.

Write us for Data Sheets and further information. Outline your problem and we will apply our "40 years' experience" toward its solution.

OTHER GRAPHALLOY PRODUCTS:

Oil-free self-lubricating Bushings and Bearings, Oil-free Piston Rings, Seal Rings, Thrust and Friction Washers, Pump Vanes.

GRAPHITE METALLIZING CORPORATION
1030 NEPPERHAN AVE. • YONKERS, NEW YORK

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SEAL OF PROVEN PERFORMANCE

Modernair

AIR / FLUID POWER EQUIPMENT SPECIALISTS

VALVES – CHUCKS – CYLINDERS – SILENCERS – SOLENOIDS
HYDRAULIC PUMPS – COMPRESSORS – PILOTS – AIR CONTROLS
MACHINE FEEDS – CLAMP CYLINDERS – QUICK EXHAUSTS
WRITE FOR CATALOG
STOCKS IN PRINCIPAL CITIES

Modernair CORPORATION
400 PREDA STREET • SAN LEANDRO, CALIFORNIA

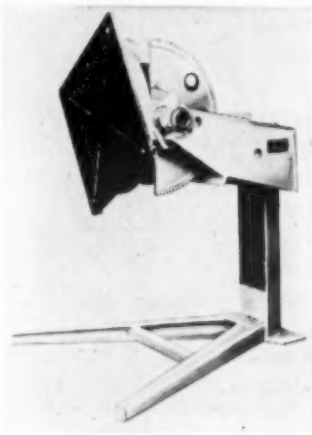
For more details circle NED-312 L3 on enclosed inquiry slip

RUBBER-TIRED CASTERS of rigid and swivel design

Included in line of stationary and swivel type casters with various types of tires is the ball bearing fork type S swivel caster and matching fork type R rigid caster with replaceable Neoprene tired wheels. Swiveling unit has two rows of ball bearings, with top row absorbing the weight load and the bottom row absorbing the thrust. Capacities vary from 250 to 375 lb. Overall height, strength and top plate size of rigid and swivel models are the same. Resilient Neoprene tread is bonded to a hard fibrous Neoprene base, making the complete tire a separate integral part of the wheel. Steel disks hold wheel together with machine bolts. Wheel diameters are 4 and 5 in. and overall heights are 5 13/32 and 6 13/32 in. Axle is drilled for pressure lubrication. Made by **Wil-Mat Corp.**, 2507 Wilkinson Blvd., Charlotte 8, N. C.

For more details circle NED-313 L3 on enclosed inquiry slip

WELDING POSITIONERS for automatic or manual welding



Built in 2500, 3000 and 6000-lb capacities, heavy-duty welding positioners can be used for manual or automatic welding. A stepless speed change drive is controlled by a calibrated handwheel or remote electrical control. Table is spur gear and pinion driven for minimum backlash and accurate adjustment. Built-in high capacity ground permits resistance-free return of welding current for uniform work. Table tilting speed is 135 degrees in 40 seconds and table height is adjustable in 6-in. steps. Tilt indicator is standard equipment. If desired, units can be column or wall mounted by eliminating standard mounting post. Made by **Worthington Corp.**, 427 Worthington Ave., Harrison, N. J.

For more details circle NED-314 L3 on enclosed inquiry slip

DO YOU KNOW? A record-playback control which directs a machine or process cycle from information stored on a magnetic tape is being built for the Giddings & Lewis Machine Tool Co. Device is expected to double the production speed of a milling machine that manufactures self-reinforced skin structures for jet aircraft. Developed by General Electric Co., Specialty Control Dept., Schenectady 5, N. Y.

For more details circle NED-315 L3 on enclosed inquiry slip

Send for a sample of

G-8

the new grade of laminated plastics

SYNTHANE is now producing G-8—a new, lower-cost glass mat melamine laminate for power and lighting applications.

In addition to combining high fire-and-arc-resistance with excellent mechanical and chemical properties, this new grade of SYNTHANE laminated plastic offers a considerable saving whenever its use is appropriate. G-8 costs less than continuous filament glass-base material—and its dielectric properties are good. Ease in fabrication makes G-8 adaptable to many electrical applications. To learn more about this new material—about its high strength, light weight, low inertia, fire- and corrosion-resistance, and combinations of these properties and a sample for examination—just clip and send the coupon below.

SYNTHANE

Manufacturers of laminated plastics
SHEETS
RODS • TUBES
MOLDED-LAMINATED
MOLDED-MACERATED
FABRICATED PARTS

SYNTHANE CORPORATION
N. E. River Road, Oaks, Pennsylvania

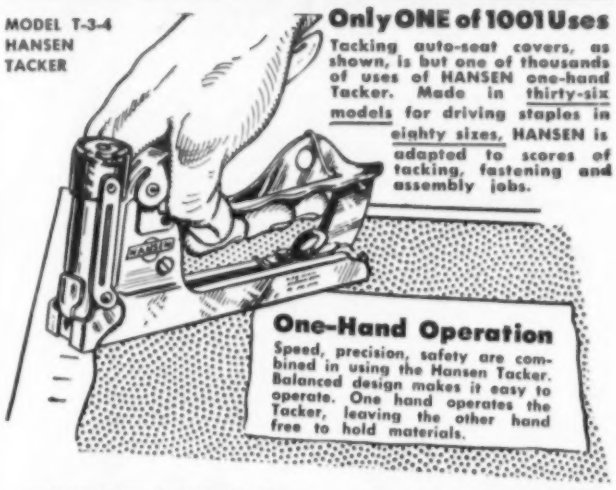
Gentlemen:
Please send me a sample of new G-8 and complete information on properties.

Name _____
Address _____
City _____ Zone _____ State _____

For more details circle NED-316 L3 on enclosed inquiry slip

YOU CAN DO IT BETTER with HANSEN ONE-HAND TACKER

MODEL T-3-4 HANSEN TACKER



Only ONE of 1001 Uses

Tacking auto-seat covers, as shown, is but one of thousands of uses of HANSEN one-hand Tacker. Made in thirty-six models for driving staples in eighty sizes, HANSEN is adapted to scores of tacking, fastening and assembly jobs.

One-Hand Operation

Speed, precision, safety are combined in using the Hansen Tacker. Balanced design makes it easy to operate. One hand operates the Tacker, leaving the other hand free to hold materials.

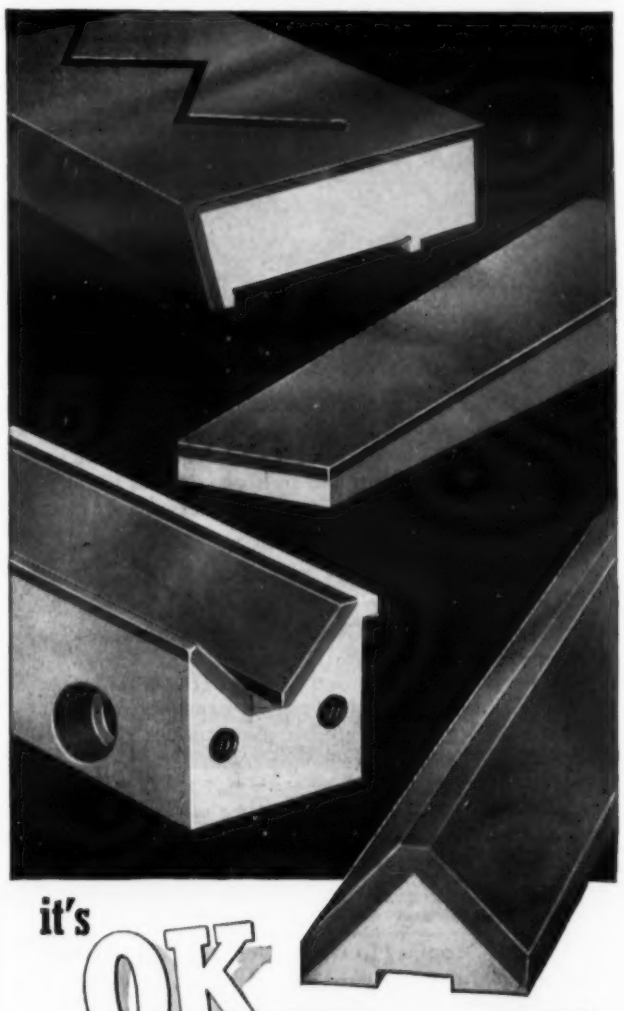
HANSEN SAVES time — steps — materials

TIME—self-contained, ready for instant, continual use. STEPS — saves back-tracking for tacks. MATERIALS — precision driving, insuring neater, better work.

Request Booklet ...today

A.L.HANSEN MFG. CO.
5164 RAVENSWOOD AVE., CHICAGO 40, ILL.

For more details circle NED-317 L3 on enclosed inquiry slip



it's OK let'em go with OK

hardened ways, gibs, ball races, and Ampco* bronze wear strips

The ultimate success and accurate life of your machine depends largely on the accuracy, and uniform high hardness of its ways, gibs, ball races or wear strips. OK parts are the finest. Made of special tool steel welded to a backing of soft tough steel under 2500 tons pressure, then hardened to a Rockwell C-65-66 and ground to tolerances of ± .00015 (both straight and parallel). Available in all sizes and shapes, to meet your particular requirements.

OK wear strips are also available in welded Ampco bronze. Because of the OK's special bi-metal method of welding, less bronze is required. Ways are ground to close tolerances thus reducing manufacturing and assembly time.

Manufacturers for the Metal Working Industry of Slitter Knives, Shear Blades, Rotary Shear Knives, Hardened Spacers, Hardened Ways, Gibs, Ball Races, Bronze Ways, and Wear Strips.

Write Dept. H for Bulletin

*Reg. U. S. Pat. Office by Ampco Metal Inc.

THE OHIO KNIFE CO.
CINCINNATI 23, OHIO

For more details circle NED-318 L3 on enclosed inquiry slip

you play it SAFE with Safety-Pulls

Just as important as the time-and labor-saving advantages of Coffing Safety-Pull Ratchet Lever Hoists is the way each one protects your men from injury . . . your equipment from damage. Here's why:

Load cannot slip even if handle is accidentally released — because of dual Ratchet and Pawl principle, developed by Coffing and an outstanding Coffing advantage for over a quarter of a century.

Load is held positively at all times — there is no friction brake to slip or freeze.

Hooks will not break or straighten out.

"Safety-valve" handle will bend before any other part of hoist gives way.

Safety-Pulls are single-chain tested at 100 percent above warranted, rated capacity.

Coffing Safety-Pull Ratchet Lever Hoists
2 coil chain models, ¾ and 1½ tons
10 roller chain models, ¾ to 15 tons

Find out more about how Coffing Safety-Pulls provide extra protection on the job. Write for Bulletin X11SP.

COFFING HOIST CO., Danville, Illinois
ORIGINATORS OF RATCHET LEVER HOISTS
Quik-Lift Electric Hoists • Hoist-Alls • Mighty-Midget Pullers • Spur-Geared Hoists • Differential Chain Hoists • Load Binders • I-Beam Trolleys

For more details circle NED-319 L3 on enclosed inquiry slip

SUNNEN® HONING

Proved the Practical, Economical Way to Size and Finish this Valve Guide

Tough, High Carbon, High Chrome Castings are Honed Easily, Quickly

PROBLEM: To produce an accurate hole with a 20 micro-inch finish in high carbon, high chrome (25 to 28%) castings—at a reasonable cost.

MATERIAL: Chrome-Iron alloy casting • HARDNESS: 36 to 42 Rockwell "C" • HOLE LENGTH: 3.5" • HOLE DIAMETER: .6735 • STOCK REMOVAL: .002" to .0025" • TOLERANCE: ± .0005" • FINISH: 20 micro-inches, RMS • MANUFACTURER: American Non-Gran Bronze Co.

SOLUTION: Sunnen Model MB1290D Honing Machine with K-20 type mandrels and 220 grit, medium hardness stones, and Sunnen Honing Oil. Only preparation is rough reaming.

RESULTS: Sunnen Honing is giving excellent results at less cost than any other method tried. Surface finish requirements are met easily. Semi-skilled labor is used. Production rate is 40 per hour, including individual gaging.

You'll find Sunnen Honing Machines economical for job lots or long production runs . . . for everything from de-burring to micro-fitting. They are frequently the solution to production problems that cannot be handled by drilling, reaming, boring, lapping or grinding.

These machines generate geometrically perfect holes with fast stock removal . . . produce a guaranteed accuracy of .0001" or better and surface finish to 2 micro-inches RMS . . . have a diameter range of ⅛" to 2⅝" . . . require no jigs or fixtures. Average installation costs less than $1,000.

TYPICAL HONED PARTS

Cast iron hydraulic cylinder — Steel worm gear — Bronze motor bearing

Sunnen Honing Machines may be *your* answer, too.

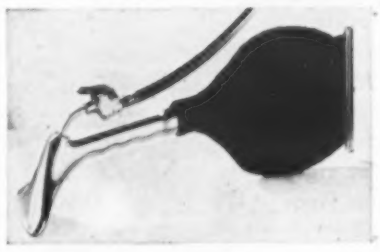
Send for FREE BOOKLET

751-A

SUNNEN® PRODUCTS COMPANY
7970 Manchester Avenue, St. Louis 17, Missouri
Canadian Factory: Chatham, Ontario

For more details circle NED-320 L3 on enclosed inquiry slip

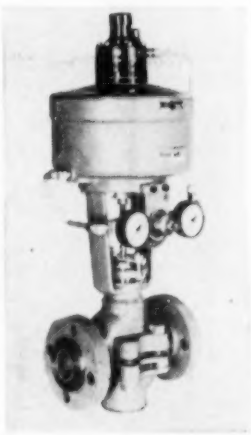
VACUUM CLEANER
industrial model is air operated



Powerful suction developed by compressed air from plant airlines is used by this air-operated industrial vacuum cleaner to pick up metal chips, glass particles, abrasives, corrosive dusts and other wet or dry wastes. It has no moving parts. Since body is an aluminum casting, it is nonsparking and is usable in hazardous fire-prone locations. A hose replaces waste bag for use with liquids, and other special fittings and brushes are available. With graded screens, cleaner will separate particle sizes or clean stock bins without removing the stock. If desired, it can also be permanently installed at grinding wheels, belt sanders or other dust-producing locations. Made by **R. P. Bennett Co.**, 43-A S. Carroll St., Frederick, Md.

For more details circle NED-321 L3 on enclosed inquiry slip

CONTROL VALVE
for regulating fluid and gas flows



Actuated by a piston-type air motor, LB series control valves are designed to fulfill the most exacting requirements of process and other industries for accurate, positive and sensitive flow control of hard-to-handle fluids and gases. The operator is capable of positioning reversible venturi type Conoplug accurately to well over one part in 1000 of instrument output span. Sizes up to and including 4 in. are available for series 15, 30, and 60 body ratings. Both straight through and angle valve bodies are standard in carbon steel, bronze, aluminum, stainless steel, Hastelloy and Durimet. Valves are suitable for services including steam and the most corrosive chemical conditions at up to 2500 psi, 1000° F and high vacuums. Made by **Conoflow Corp.**, 2101 Arch St., Philadelphia 3, Pa.

For more details circle NED-322 L3 on enclosed inquiry slip

DO YOU KNOW? Operation of electric fork trucks recently purchased for warehousing was so quiet that it constituted a safety hazard. While a horn was standard equipment, a mild continuous warning was needed. The solution—ball bearings placed loose in hub caps to render a gentle jingle to warn workers that a truck was approaching. Idea was suggested by Lewis-Shepard, Dept. R-30, Watertown, Mass.

For more details circle NED-323 L3 on enclosed inquiry slip

not a GIANT Yet

HE EASILY PICKS UP 800 lb. LOADS WITH A SABIN One-man BARREL TRUCK

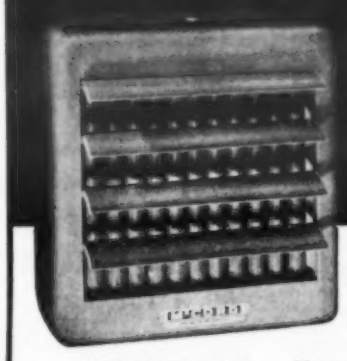
SAVES COST OF HELP

Instead of running ordinary truck up to container and waiting for helpers, you move a Sabin Truck up to the container, hook on at top and pull back on handle to pick up load. *Third Wheel Feature* for better balance and added safety in moving load. WRITE FOR BULLETIN 48-A.

THE SABIN MACHINE CO.
6536 Carnegie Avenue
Cleveland 3, Ohio

For more details circle NED-324 L3 on enclosed inquiry slip

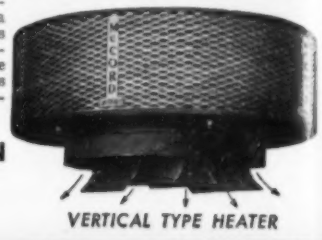
Better Heat Distribution WITH McCORD Unit Heaters



More Heat . . . Better Distribution

HORIZONTAL TYPE HEATER

More heat, better distribution is the answer to any heating problem. McCord, because there is a model and type to meet each particular condition, will do a better heating job. Every improvement that engineers and the experience of many users could suggest is incorporated in the improved models of McCord Unit Heaters. Due to the design and careful attention to balance a new degree of quietness has been attained. The scientifically designed spiral fin tube heating surface provides maximum heat transfer capacity.



VERTICAL TYPE HEATER

McCORD CORPORATION
2580 E. Grand Blvd.
Detroit, Mich.

Specify McCORD ON YOUR NEXT JOB

For more details circle NED-325 L3 on enclosed inquiry slip

3 reasons why DeLuxe Steel Shelving costs you less

The real cost of shelving is the erected cost

1. **Fewer Parts**—DeLuxe has designed one part where ordinary shelving uses three. Example, our bin-type "I-Beam" upright. *Fewer parts mean fewer man hours to install.*
2. **80% Less Bolts**—DeLuxe shelving uses patented, boltless shelf brackets, thus requires *no tools* for either installation or adjustment.
3. **100% Adjustable**—Shelves in each section are independently adjustable, without disturbing other contents. DeLuxe shelving erects on the spot, in position where you want it . . . the only shelving that does all this.

There is a DeLuxe factory representative in your area who will give you our engineering, planning and layout service without obligation. Write today for free catalog.

DELUXE METAL FURNITURE CO.
305 Struthers St., Warren, Pa.

For over 25 Years Manufacturers of: Storage Shelving • Library Shelving • Storage Cabinets • Shop Equipment

For more details circle NED-326 L3 on enclosed inquiry slip

Low Micro-Inch Finishes in Automatic Profiling of Difficult Cam Shapes with GORTON CM-12 Contour Mill

This tracer-controlled, vertical-head mill, with two power-driven rotary tables, rapidly produces complicated external or internal cam shapes and continuous grooves or slots of irregular radii. The 16-inch master-copy table holds larger master cams, and spindle speeds range from 300 to 10,000 rpm. Your shop people can stack and profile several thin cams at a time and, through the reduction ratio principle, hold closer tolerances in the piece parts than in the master.

Write for Bulletin 2380-C-1911 and complete details on how to adapt the CM-12 to your application.

GEORGE GORTON MACHINE CO.
1911 RACINE STREET • RACINE, WISCONSIN, U.S.A.

For more details circle NED-327 L3 on enclosed inquiry slip

NEW!

TWO STEP
AGASTAT
Trademark
TIME DELAY RELAYS

NET-11 AGASTAT

Single units for applications requiring a sequence of time delay relay periods—such as sequential starting of motors—or an adjustable momentary impulse, as in operating air valves of air cylinders on indexing machines. Time delay range of from 0.1 seconds to 10 or more minutes, with a secondary delay period up to 15 seconds. Compact, lightweight pneumatically timed units, low in cost and remarkably versatile.

Write for specifications—and ask our application engineers for help with your timing problem. Address Dept. A7-115.

A'G'A DIVISION
ELASTIC STOP NUT CORPORATION OF AMERICA
1027 Newark Avenue, Elizabeth, New Jersey
Pioneers in pneumatic timing

▲ For more details circle **NED-328 L3** on enclosed inquiry slip ▲

REDUCE COSTS ON "SMALL-WORK" GRINDING & FINISHING JOBS with

Foredom FLEXIBLE SHAFT MACHINES

- FEATHER - WEIGHT, finger-tip-controlled handpiece (pencil size or larger) which eliminates operator fatigue.
- CHOICE OF 5 HANDPIECE TYPES (all instantly interchangeable). You fit the handpiece to the job at hand.
- EXTRA GOOD FLEXING QUALITIES in the flexible shaft assembly for effortless maneuverability.
- LONGER MOTOR LIFE because motor is not dwarfed to fit the hand.
- HIGH SPEED (14000 RPM) which does not drop precipitately under load.
- SILENCER-EQUIPPED flexible shaft for vibration-free performance.

BENCH OR HANG UP MODELS FOR HEAVY OR LIGHT DUTY

Over 100,000 Foredoms Now In Use!

Also flexible-shaft tools attachable to your own drill press or motor

Use Foredoms to GRIND, POLISH, DRILL, ROUT, CARVE, MILL, SAW, SLOT, CLEAN, SAND, ETCH, ENGRAVE, etc., etc.

Write for Catalog 5265

FOREDOM Electric Co., Dept. 5265, 27 Park Place, N.Y. 7, N.Y.

▲ For more details circle **NED-329 L3** on enclosed inquiry slip ▲

S-W Belt Saver Pulleys
SINCE 1866

... Protect Expensive Belts

For rough service installations . . . for the handling of hard, abrasive materials—always specify the S-W 'BELT-SAVER'.

Its special wing and cone design and its self-cleaning action assure longer belt-life and reduced maintenance costs.

The 'BELT-SAVER' pulley is exclusive with Sprout-Waldron, along with a complete line of standard and special cast iron pulleys.

Write for Bulletin 35-A today! Sprout-Waldron & Co., 8 Logan St., Muncy, Pa.

Vertical Mixers, Attrition Mills, Rotary Feeders, Ribbon Type Mixers, Crushers, Knife Cutters, Continuous Mixers, Roller Mills, Separators, Pulleys

198

SPROUT-WALDRON

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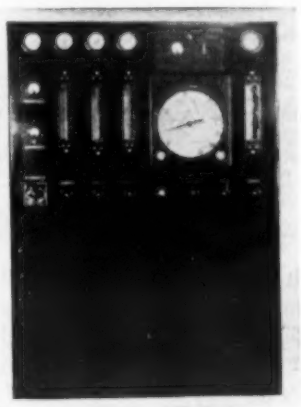
GRINDING VISE
square within 0.0001-in. or less

Tapered and odd-shaped workpieces can be held in the swivel jaw of the Square Perfect grinding vise which, in its four positions, is square within 0.0001-in. or less in 1 in. It has an adjusting stop and down-holding feature for accurate positioning of workpieces. Round stock from 1/16 to 2½ in. diameter is held in V-block fashion. Vise can be attached to angle plates, V-blocks and sine angle plates with 0.100-in. recess for small angles. Jaw opening range is 0 to 3 in. Made by **J & S Tool Co.**, 700 W. Mt. Pleasant Ave., Livingston, N. J.

▲ For more details circle **NED-331 L3** on enclosed inquiry slip ▲

NITROGEN GENERATOR
redesign reduces operating costs

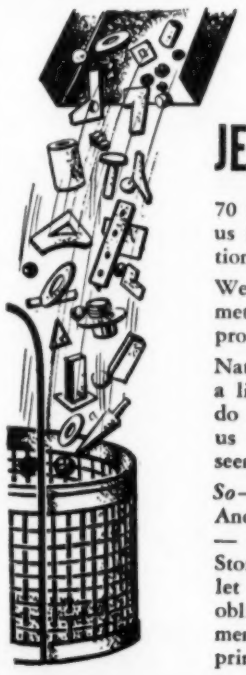


By using a heat exchanger which lowers dew point of the gas produced from 75 to 40° F, redesigned Nitroneal nitrogen gas generator now employs smaller driers. This improvement substantially reduces operating costs. Generator produces an oxygen-free gas whose hydrogen content can be varied as required between 0.25 and 25 per cent. It is automatic, explosionproof and operates by reacting ammonia with air in the presence of a catalyst. Applications of nitrogen include use in chemical industry as an inert gas for blanketing and purging, as a reducing furnace atmosphere for heat treating, in brazing without flux and annealing, and in many other industries. Made by **Baker & Co.**, Instrument Div., 207 Grant Ave., East Newark, N. J.

▲ For more details circle **NED-332 L3** on enclosed inquiry slip ▲

DO YOU KNOW? A method of laminating vinyl plastic and sheet steel or aluminum has been developed that will make these metals colorful, decorative and permanently rust and corrosionproof. This Marvinol-Metal laminate is adaptable to wide range of equipment, appliances and products. Sheets are being made for tests and for limited production work. Company intends to make the process available for industry. Developed by United States Rubber Co., Naugatuck Chemical Div., Naugatuck, Conn.

▲ For more details circle **NED-333 L3** on enclosed inquiry slip ▲



WHEN YOU PUT A LOT OF LITTLE ONES INTO A BIG ONE — MAKE SURE IT'S A

JELLIFF DIPPING BASKET

70 years making Wire Mesh have taught us a lot about this material, its fabrication, and uses.

We make Dipping Baskets of any ductile metal, and in any size and shape your products and process require . . .

Naturally we believe we make them just a little bit better than the other fellows do — and a lot of people who turn to us regularly for their Dipping Baskets seem to agree with us.

So—for Degreasing—Pickling—Plating Anodizing — Washing — Heat Treating — or for just plain Bulk Handling or Storage of small parts in large quantities, let JELLIFF give you a no-cost no-obligation estimate for your next requirement of Dipping Baskets. Send a blueprint or specifications to Department 11.

THE C. O. JELLIFF MFG. CORP.
DIPPING BASKETS
LEKTROMESH
RESISTANCE WIRE
WIRE MESH PARTS
WIRE CLOTH
STRAINERS • FILTERS
SOUTHPORT CONNECTICUT

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NEW

SEND FOR THIS BULLETIN 210 TODAY

Get All the Facts!
BULLETIN 210 CONTAINS

- DETAILED CUTAWAY DRAWINGS
- DESCRIPTION OF CLEANING ACTIONS
- CHARTS OF CAPACITIES, RESISTANCE, SIZES and WEIGHTS
- TYPES OF FILTERING MEDIA AVAILABLE
- EXCLUSIVE CONSTRUCTION FEATURES FOR THE ORIGINAL EQUIPMENT MARKET

Representatives in Principal Cities
DOLLINGER CORPORATION
49 Centre Park, Rochester 3, New York

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FOR MATERIAL HANDLING—
more and more—the swing is to wide-base pneumatic tires

GENERAL
INDUSTRIAL PNEUMATIC TIRES

More Designers are specifying wide-base General Pneumatics. They know Generals add these extra selling points to handling equipment.

SAVE TIME • MONEY • LABOR

- MORE LOAD CAPACITY AT LOW OR HIGH SPEEDS
- CUSHION EQUIPMENT AND LOADS REDUCING BREAKAGE AND SPILLAGE
- SAVE HIGH COST FLOORS AND FLOOR SURFACES
- SLOW, EVEN WEAR FOR LONG SERVICE
- HIGH FLOTATION FOR EASIER ROLLING OVER SOFT GROUND
- ROLLS EASIER, SMOOTHER OVER ALL SURFACES

Available separately or in assemblies of Tires, Tubes and Wheels. Size O.D. 8" to 27"—200 to 4000 lbs. cap. for low or high speeds.

THE GENERAL TIRE

Rigid CASTER FORKS *Swivel*

Wide-base caster forks engineered to carry heavier loads without adding dead weight to equipment. Available in identical pairs in a wide range of sizes.

SEND FOR CATALOG . . . DEPT. 4

THE GENERAL TIRE & RUBBER CO. AKRON, O.

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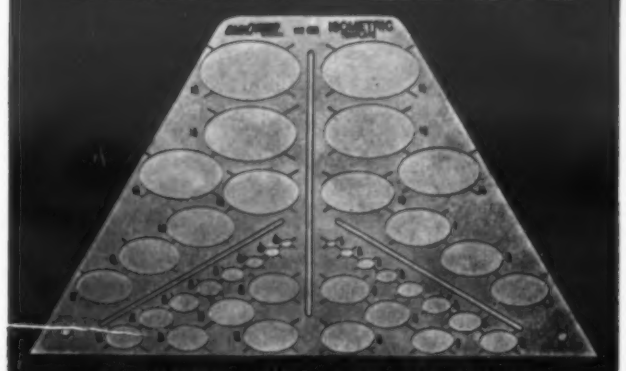
NO. 123 ISOMETRIC TEMPLATE



ALL THREE AXES ARE AVAILABLE WITHOUT TURNING THE TEMPLATE

.040 clear mathematical quality double cured plastic. All cut-outs are smooth-milled to give engraving-machine accuracy.

One of more than 35 Rapidesign time-saver templates—all of which are better made, more useful and lesser priced.

$3.00 AT YOUR LOCAL DEALER

CATALOG No. 50 MAILED ON REQUEST

RAPIDESIGN INC.

BOX 592 GLENDALE CALIF.

For more details circle NED-337 L3 on enclosed inquiry slip

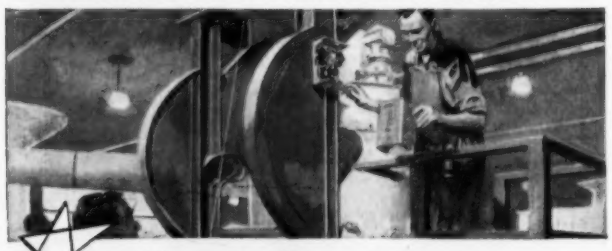
THE THREE CUTLER-HAMMER STARS ★ ★ ★ STAND FOR THREE NEW STANDARDS

Installs easier

The cost of installing motor control today is usually much more than the cost of the control equipment, often two to three times as much. Thus this new control offers *large* savings.

Works better

Users say, "Nothing like this ever before." Smooth, quiet operation with uniform response. New adjustable overload protection lets motors work harder with fewer nuisance interruptions.



Lasts longer

Revises all existing ideas of long trouble-free life in motor control. Cuts rate of wear to point that maintenance care and cost are virtually eliminated for 90% of all control uses.

The three silver stars on the famous Cutler-Hammer nameplate identify the new spectacular Cutler-Hammer ☆☆☆ Motor Control and stand for three entirely new standards in motor control satisfaction and value. ☆ 1. . . . Easier, faster, lower cost installation. ☆ 2 . . . Time-saving, trouble-saving, cost-cutting better performance. ☆ 3 . . . Amazingly longer life. Compare it. You too will say it is the finest control you know. CUTLER-HAMMER, Inc., 1377 W. St. Paul Avenue, Milwaukee 1, Wisconsin.

TRY IT! COMPARE IT! TEST IT! PROVE IT!

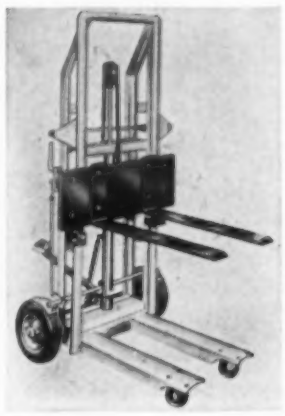
CUTLER-HAMMER ☆☆☆ MOTOR CONTROL C-H

Order from your nearby Authorized Cutler-Hammer Distributor today.

CUTLER-HAMMER ★★★ MOTOR CONTROL

For more details circle NED-338 L3 on enclosed inquiry slip

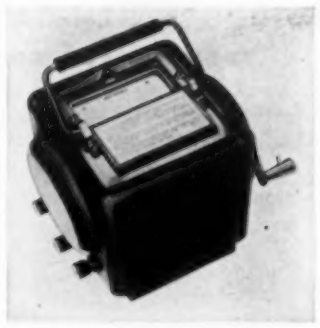
HAND LIFT TRUCK
1000-lb capacity, 53-in. lift height



Designed for safe one-man operation, model FH-1 hydraulic lift truck is powered by a foot-pedal operated cylinder and will lift 1000-lb loads to a height of 53 in. It will operate in narrow aisles and turns easily in close quarters. Features include snap-on plate for use as a platform truck, foot lever operation, safety release pedal and wheel lock. Made by **Safeway Industrial Equipment Corp.,** Dept. NED, 184 N. Franklin St., Chicago 6, Ill.

For more details circle NED-339 L3 on enclosed inquiry slip

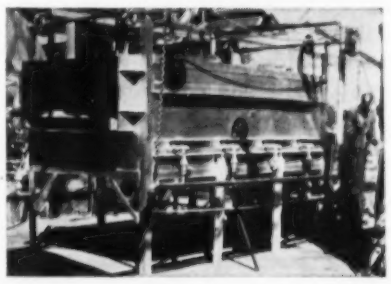
INSULATION RESISTANCE TESTER
1000 megohm unit is self-powered



Recently improved, model 5G-1000 megohmmeter is self-powered and gives accurate readings of insulation resistance in electrical equipment without batteries or external power source. It reads to 1000 megohms, and has a cross coil ratio meter which applies full potential to equipment under test. Greater strength and durability is built into the improved instrument, which also has easier drive mechanism, free-wheeling generator clutch and separate Alnico magnets for indicator and generator. Made by **Winslow Co.,** 7 Liberty St., Newark 5, N. J.

For more details circle NED-340 L3 on enclosed inquiry slip

GAS-FIRED FURNACE
for feed-through heat treating



Parts to be heat treated in the Waltz Oven Furnace are loaded in through one end by one operator, then pulled through the remaining distance and quenched by another operator working through a door at the opposite end. Gas-fired unit has a 36-in. wide hearth that is 96 in. long. Effective height is 7 in. and hearth is 45 in. from the floor. Light duty furnace is usually operated at 1450° F. It is underfired from both sides. Made by **Waltz Furnace Co.,** Dept. 13, 1901 Symmes St., Cincinnati, O.

For more details circle NED-341 L3 on enclosed inquiry slip

Your Entire Stock of Drills... Seen at a glance

HUOT DRILL DISPENSER

for

• TOOL CRIBS • STOCK ROOMS • MACHINE SHOPS

Saves Time hunting through stacks of packaged drills. Compartments hold a gross of small sizes—a dozen or more of the larger ones. Raised letters on easy sliding drawers . . . hammerlin gray baked enamel finish . . . 14½"x7¼"x7¼".

Write for Circular

Model No. 1: Fractional drills ⅛" to ½"
Model No. 2: Number drills 1 to 60
Model No. 3: Letter drills A to Z

HUOT MFG. CO.

571 NORTH WHEELER ST. PAUL 4, MINNESOTA

Huot is pronounced "How-ot"

For more details circle NED-342 L3 on enclosed inquiry slip

VERTICAL or HORIZONTAL

THE MOST *COMPACT CONVEYOR* FOR BULK MATERIALS

FORT WORTH Screw Conveyors and vertical Screw Elevators provide the most compact means of conveying or elevating bulk materials, such as grain and other free flowing products. Space occupied is less than half that of most other types of conveyors.

Vertical screw elevators are used to lift materials up to 70 feet, depending on the nature of the product.

Initial cost is low. A minimum amount of upkeep is required.

WRITE FOR CATALOG 200B

OTHER FORT WORTH PRODUCTS: V-BELT DRIVES, SCREW CONVEYORS and ACCESSORIES, SCREW ELEVATORS, INDUSTRIAL FANS

FORT WORTH STEEL & MACHINERY CO.

Dept. 2211, 3600 McCart St., Fort Worth, Texas

For more details circle NED-343 L3 on enclosed inquiry slip

LONGER Anode Life . . . With *Udylite* Ferrolum

Udylite Ferrolum Anodes are made with a STEEL core, clad with lead . . . the molecules of both metals are bound inseparably together. The anodes can't crack or peel no matter how they are bent or twisted. As a result, Ferrolum Anodes combine high, even electrical conductivity with the finest corrosion resistance . . . PLUS great rigidity and strength!

New Udylite Ferrolum Anodes offer exceptionally long life. That means long-range economy as well as low initial cost. They offer more uniform deposits too, with less build-up of insulating film and shorter plating time. Also, Udylite Ferrolum Anodes are much lighter in weight.

These new anodes are available in type I, Chemical Lead Clad, type II, Tin-Lead Clad, and type III, Antimonial Lead Clad.

Get the full story on these NEW Udylite Ferrolum Anodes from your Udylite technical man today, or write direct. THE UDYLITE CORPORATION, DETROIT 11, MICHIGAN.

Check these Advantages—

1. Economical cost.
2. Better and more uniform conductivity.
3. Great rigidity and strength.
4. Lightness in weight.
5. Less build-up in insulating film.
6. Longer Life.

THE UDYLITE CORPORATION
DETROIT 11, MICHIGAN
PIONEER OF A BETTER WAY IN PLATING

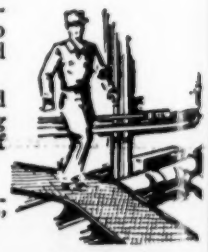
For more details circle NED-344 L3 on enclosed inquiry slip

SOLVE ALL YOUR SKIDDING & SLIPPING PROBLEMS

with Bustin FIRM-GRIP SAFETY GRATING

Bustin FIRM-GRIP* grating guarantees safe, comfortable walking under the most adverse conditions where grease, oil or water can cause accidents from slipping.

FIRM-GRIP is acclaimed by Safety Engineers of major industrial concerns for its exceptional traction quality and other safety features due to the unique assembly and engineered spacing of the contact points.



Made in various designs and sizes and adaptable for installation on skidding problem spots where other makes of gratings cannot be considered.

"Bustin — Designers and Manufacturers of Metal Products Since 1928"

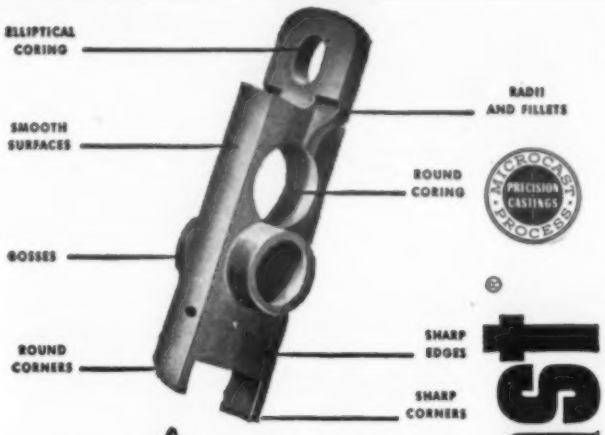
Bustin FIRM-GRIP GRATING CORP.

Dover, New Jersey

*Pat. Pending

Send for Complete Literature

For more details circle NED-345 L3 on enclosed inquiry slip



unlimited design possibilities

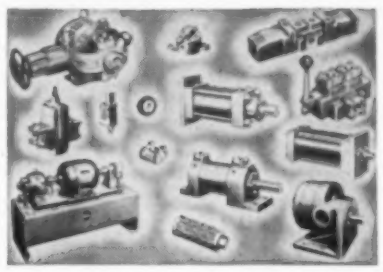
The Microcast Process of precision investment casting opens new fields of design to the product development engineer. Tough, virtually non-machineable high-heat metals and alloys can now be incorporated economically into your product's design through the Microcast Process. Design for little or no machining—for better parts at less cost—for longer life, and for functional improvements from the use of better metals and alloys. Write for booklet on Microcast—Also new color movie available without charge.

MICROCAST DIVISION | **Austenal Laboratories, Inc.**
224 East 39th Street, New York 16, New York
7001 South Chicago Ave., Chicago 37

microcast

For more details circle NED-346 L3 on enclosed inquiry slip

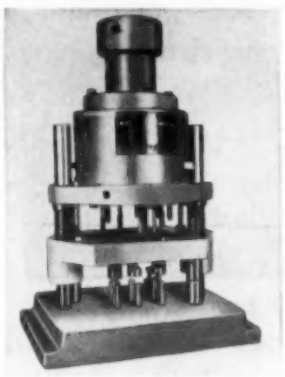
HYDRAULIC COMPONENTS
extensive line is offered



Including more than 800 basic units, a complete line of hydraulic cylinders, valves, pumps, power units and accessories is now available. Cylinders are offered in three series for service at 150 psi air or 300 psi oil, and for 2000 and 3000 psi oil service. All models can be supplied for water. Valves are available in functional and direction types and include more than 3175 different models for service up to 3000 psi. Fixed displacement pumps and motors have capacities from 1 to 250 gpm at 1000 psi, while variable displacement units have capacities from 1 to 185 gpm at 3000 psi. Packaged power units have reservoir capacities ranging from 7 to 200 gallons. Made by **Hydraulic Press Mfg. Co.**, Hydraulic Power Div., 1052 Marion Rd., Mt. Gilead, O.

For more details circle NED-348 L3 on enclosed inquiry slip

DRILL JIGS
self-clamping units hold work



Usable in conjunction with Zagar multiple spindle drill heads, line of self-clamping drill jigs serves various functions on standard drill presses and tapping machines. Four standardized types accommodate various sizes of workpiece, handling hole patterns from 3 to 15-in. diameter. Downward force of the machine spindle is utilized to locate and hold the work, and pressure is released after tools are retracted. Special engineering for individual applications is minimized by careful design and a wide range of available standard components. Made by **Zagar Tool, Inc.**, Dept. NE53-1, 24000 Lakeland Blvd., Cleveland 23, O.

For more details circle NED-349 L3 on enclosed inquiry slip

DO YOU KNOW? Atomic energy in the form of wristbands containing radio-active crystals is utilized to protect the hands of punch press operators at the San Francisco maintenance base of United Air Lines. Three Geiger tubes enclose the punching area and pick up radiation from the wristbands if hands of operator stray into danger. Device is so sensitive that it can stop the punch in mid-stroke. Further safety measure provides that punch press will not operate unless the operator is wearing the wristbands. Developed by Hazatrol Inc., Berkeley, Calif.

For more details circle NED-350 L3 on enclosed inquiry slip

Get These 3 Low Maintenance Features

1 *Wide Open Air Flow* No enclosed external air passages to clog. Easy to clean with cloth, brush, air hose or vacuum.

2 *Cast Iron Construction* Cast iron frame and conduit box resist corrosion. Well-suited to outdoor operation.

3 *Pre-lubricated Bearings* Ball bearings are double-shielded type, pre-lubricated at the factory. In-service lubrication if necessary.

GET COMPLETE INFORMATION on Allis-Chalmers motors for indoor and outdoor service — complete with Allis-Chalmers coordinated control — from your nearby A-C Authorized Distributor or District Office, or write for Bulletins 51B7286 and 51B7149, Allis-Chalmers, Milwaukee 1, Wisconsin.

A-4133

ALLIS-CHALMERS

For more details circle NED-352 L3 on enclosed inquiry slip

SEE HOW YOU CAN SAVE WITH OZALID COPIES!

Write Today for free, 48-page "100's of Uses" Booklet Showing How Direct Copies with Ozalid, Speed Paperwork and Cut Costs in All Departments.

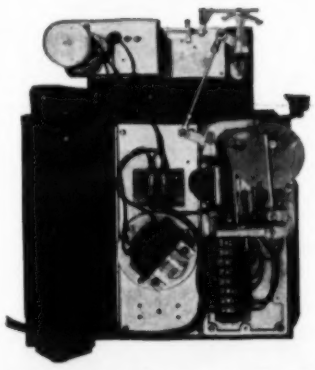
Cut Copying Costs . . . Use

OZALID

JOHNSON CITY, N. Y.
A Division of General Aniline & Film Corporation
"From Research to Reality"
Ozalid in Canada—Hughes Owens Co., Ltd., Montreal.

For more details circle NED-347 L3 on enclosed inquiry slip

a new electronic flow meter!



- electronic operation provides high speed and greater accuracy
- continuous integration —no creep at zero
- unaffected by normal voltage, frequency and temperature changes
- 3 to 1 range calibration at recorder

HAYS Electronic Flow Meter

Since the circuit is of the electronic null-balance type, it is unaffected by normal voltage and frequency variations. Also, neither temperature variations nor reasonable length of transmission lines affect the calibration of the instrument.

The *pen-drive motor* is built for reversing duty. Normal variations in voltage and frequency have no noticeable effect on its operation. The *integrator* is continuous in operation and simple in mechanical construction. A micrometer zero adjustment for calibration is easily accessible. *Indicators* can be calibrated to read directly in rate-of-flow or other factors as desired. *Write today for Bulletin 52-1074-222.*

THE hays CORPORATION
Michigan City 15, Indiana

For more details circle NED-351 L3 on enclosed inquiry slip

Undoubtedly, you have used these bronze bars for making bearings, bushings, washers and thrust plates. Do you realize that it has exceptional properties for other uses? Bronze is easy to machine, it is non-sparking, is corrosion resistant. Many manufacturers find it ideal for certain gears and pinions, guide rollers, sheaves, trolley wheels, tips for air tools, etc. The cost per pound is offset many times by the low cost of machining alone. Other properties give it advantages over other materials. Write today for further information.

JOHNSON BRONZE COMPANY
580 South Mill Street, New Castle, Pa.

JOHNSON JB BEARINGS
Sleeve-Type

Available from stock at your Johnson Distributor's

For more details circle NED-353 L3 on enclosed inquiry slip

STOP LEAKS

Leaks in concrete walls, masonry, cinder block, etc. can be stopped quickly with FLEXTITE. Actually seals against water pressure. Efficient as a trowel coat for sealing off water and dampness. Transforms leaky basement walls into dry surfaces. Used in elevator pits, tunnels, dams, tanks, retaining walls, etc. (Minimum quan. 6 gal.)

MAIL COUPON for TRIAL OFFER

FLEXTITE

FLEXROCK COMPANY • *Offices in Principal Cities*
3603-F Filbert St., Philadelphia 4, Pa.

Please send me complete FLEXTITE information and details of TRIAL ORDER PLAN—no obligation.

Name ..... Title .....
Company .....
Address .....

For more details circle NED-354 L3 on enclosed inquiry slip

Cut Costs with MEAD MIDGET Air-Clamps

PNEUMATIC CYLINDERS

Horizontal and Vertical!

Both models deliver 80 lbs. pressure on a line pressure of 100 lbs. They'll save countless man-hours in assembly operations involving welding, riveting, bolting, etc. *Advantages over mechanized clamps:* 1. Any number can be operated by single master valves. 2. Easily installed in cramped corners. 3. Equal ram pressure at any stroke point. Send for new Mead AIR POWER Catalog, describing our line of Air-Clamps, Air Vises, Air Presses, Work Feeders, Valves, Controls, etc.

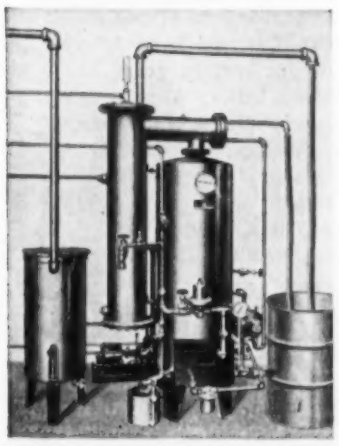
MEAD SPECIALTIES COMPANY

4114 No. Knox Ave., Dept. NA-113, Chicago 41, Ill.

For more details circle NED-355 L3 on enclosed inquiry slip

McCulloch Motors Corp. saved $3,330 *in one year!*

RECLAIMING WASHING SOLVENT with a HOFFMAN VACUUM STILL



McCulloch Motors Corp., Los Angeles, Calif., manufacturer of motor-driven chain saws, uses an average of 600 gallons of solvent every week to wash and degrease parts and machinery.

After use, the solvent which cost over fifteen cents a gallon, was sold for a salvage price of two cents a gallon.

To reclaim their solvent and to prevent such a weekly profit loss, a Hoffman Industrial Vacuum Still was installed. Operating only one day a week with little maintenance or attention, the still reconditioned a week's supply of solvent and pumped it to a storage tank for re-use.

The HOFFMAN STILL paid for itself in only 9 months!

BEFORE STILL WAS IN OPERATION

Solvent Cost	$.157 per gallon
Salvage Price	.02 per gallon
Net Cost	$.137 per gallon

600 gallons used weekly
600 x 50 = 30,000 gallons per year
30,000 x $.137 = $4,110.00 annual cost

AFTER STILL WAS IN OPERATION

Operating Cost	$.017 per gallon
Solvent Loss (7%)	.01 per gallon
Net Cost	.027 per gallon

30,000 gallons x $.027 = $810.00

THE RESULTS

$4,110.00 – $810.00 = **$3,300 Saved**

Hoffman INDUSTRIAL FILTRATION EQUIPMENT & SERVICE
U. S. HOFFMAN MACHINERY CORP., 225 LAMSON STREET, SYRACUSE 6, N. Y.
In Canada: Canadian Hoffman Machinery Co., Ltd., Newmarket, Ont.

Write today for additional information. Let Hoffman engineers show you how to reclaim your washing solvents and duplicate the cost savings of McCulloch Motors.

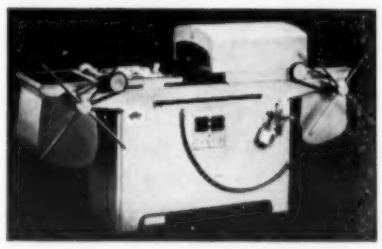
For more details circle NED-356 L3 on enclosed inquiry slip

ELECTRIC SANDER KIT
portable tool has rotary action

Portable electric sander with felt, rubber and lambswool pads; ten assorted abrasive sheets; spare drive belt; 10-ft electric cord; wrenches; and steel carrying case comprise model 120 sanding kit. Pad which measures 3⅝ x 7⅛ in. has ¼-in. orbital motion, rotating at 4000 rpm under load. This rotary, hand-simulated action is effective with or against grain to reduce scratches or uneven gouges or to produce glass-smooth finish. Sponge rubber pad adapts sander to concave or convex surfaces. Sander is powered by Universal 115-v ac-dc motor and has aluminum frame with pistol grip, trigger switch and front knob. It weighs 6 lb and can be used in any position. Made by **Porter-Cable Machine Co.**, 27 Exchange St., Syracuse 8, N. Y.

For more details circle NED-357 L3 on enclosed inquiry slip

SHELL MOLDING MACHINE
produces up to two shells per minute



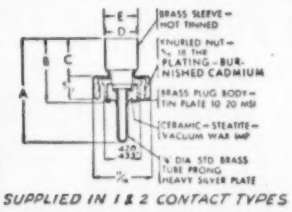
Featuring dual dump boxes and choice of gas or electric curing oven, model HO-4 shell molding machine produces up to two shells per minute and is available with automatic timers for both inversion and curing cycles. Ball bearing mounted hinged pattern gives positive alignment with consistent tolerances as close as 0.005-in. Two patterns are used, with molding taking place in one pattern while the operator is stripping the mold from the other. Curing oven is moved from end to end of the unit by a single capstan. Features include positive air-actuated shell ejection, thermostatically-controlled pattern temperature and automatic dump box clamps. Pattern size is 14 x 18 in. Made by **Shalco Engineering Corp.**, Dept. 7, 81 Encina Ave., Palo Alto, Calif.

For more details circle NED-358 L3 on enclosed inquiry slip

DO YOU KNOW? Specified performance with electrical grade Teflon rods, tubes, sheets and finished parts is assured as result of installation of a comprehensive system of quality control and certification of all Fluoroflex-T products made from Teflon powder. Certified test reports will be furnished for any shipment if desired. Service offered by Resistoflex Corp., Dept. NED, Belleville 9, N. J.

For more details circle NED-359 L3 on enclosed inquiry slip

Ideal for ANTENNA CONNECTIONS PHOTO-CELL WORK MICROPHONE CONNECTIONS



SUPPLIED IN 1 & 2 CONTACT TYPES

JONES SHIELDED TYPE PLUGS & SOCKETS

LOW LOSS PLUGS AND SOCKETS FOR HIGH FREQUENCY CONNECTIONS

For quality construction thruout, and fine finish, see diagram above.

101 Series furnished with ¼", .290", 5/16", ⅜", or ½" ferrule for cable entrance. Knurled nut securely fastens unit together. Plugs have ceramic insulation; sockets bakelite. *Assembly meets Navy specifications.*

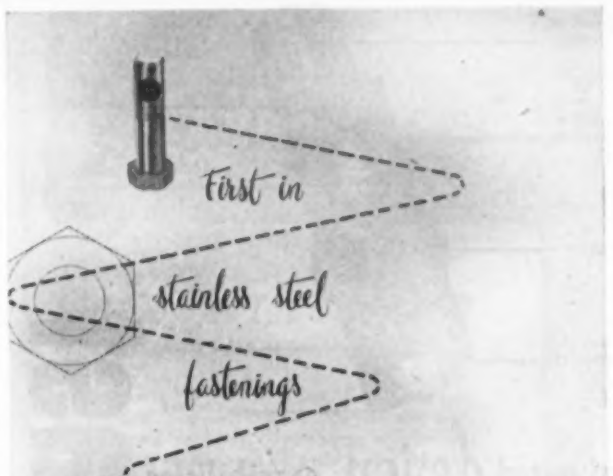
202 Series Phosphor bronze knife-switch type socket contacts engage both sides of flat plug contacts—double contact area. Plugs and sockets have molded bakelite insulation.

For full details and engineering data ask for Jones Catalog No. 17

JONES MEANS *PROVEN* QUALITY

Jones HOWARD B. JONES DIVISION
CINCH MANUFACTURING CORPORATION
CHICAGO 24, ILLINOIS
SUBSIDIARY OF UNITED-CARR FASTENER CORP.

For more details circle NED-360 L3 on enclosed inquiry slip



ANTI-CORROSIVE METAL PRODUCTS

behind this symbol is an on-hand inventory of *more than 9,000 items and sizes* of stainless steel fastenings. Ready for immediate shipment, this stock is the largest and most complete in the industry. In addition, a production capacity for large or small quantities of special orders is at your service! A good reason—when you think of stainless steel fastenings—to think FIRST of Anti-Corrosive! *Send for Catalog 53T today!*

ANTI-CORROSIVE METAL PRODUCTS CO., INC.
Castleton-on-Hudson, New York

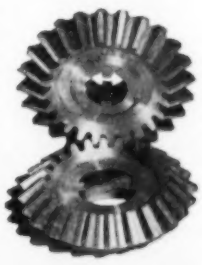
For more details circle NED-361 L3 on enclosed inquiry slip

D.O.James

Established 1888

GEARS For INDUSTRY

SINCE 1888 . . . We have been making many types and sizes of gears for industry. Vast plant facilities of the most modern gear cutting equipment assure capable handling of your *production* or *special* gear requirements.



HELICAL and BEVEL GEARS—From 1" to 60" in diameter and from 24 DP to 1½ DP.
SPUR GEARS—Size range from ¾" to 150" in diameter. 32 DP to ¾ DP.
HERRINGBONE GEARS—Made from 1" to 60" in diameter and from 10 DP to 1½ DP.
SPIRAL BEVEL GEARS—Made from 1" to 30" in diam. and 24 DP to 1½ DP.
WORM GEARS—Made from 1" to 100" in diam. and from 24 DP to 1 DP.

YOUR GEAR INQUIRIES WILL RECEIVE IMMEDIATE ATTENTION

D.O.JAMES GEAR MANUFACTURING COMPANY
1140 W. MONROE ST. • CHICAGO 7, ILL.

For more details circle NED-362 L3 on enclosed inquiry slip

HERE IT IS! 10 TON MANZEL ARBOR PRESS

• The New Manzel 10 Ton Hydraulic Arbor Press is engineered to meet a variety of needs in manufacturing plants and automotive service stations. Long ram stroke and unusual depth and width of throat make it adaptable to straightening, material testing, bending, bearing, or bushing work, and many other uses.

The press is portable . . . or can be permanently mounted on bench, column, or wall. Power unit operates 3 times faster. Ram is self-retracting. Accessory equipment include the tonnage gauge and a set of 6 extension inserts, including adapter.

WRITE TODAY FOR COMPLETE INFORMATION

Manzel

JOBBER INQUIRIES WELCOME

315 BABCOCK STREET, BUFFALO 10, N. Y.

For more details circle NED-363 L3 on enclosed inquiry slip

Check Temperatures Instantly... Accurately with Alnor TYPE 1500 PORTABLE PYROMETER

Wherever temperature readings are required—on the production line, in the laboratory or in the field—this sturdy precision instrument can bring you instant, accurate results.

Here's Why

It's Fast . . . in operation and quickly read. Precision movement designed to laboratory standards. Direct reading scale face is easily understood—no slide wires or conversion tables necessary.

It's Accurate . . . consistently to within ¾ of one percent under almost all variable conditions. Sturdy, protective case assures continued accuracy in toughest portable service. Ten scale ranges available, from 0-400° to 0-3000°F. Equivalent Centigrade scales available at no extra cost.

It's Portable . . . compact size, 6½"x6"x3", and light weight make this pyrometer highly portable and easy to use anywhere. Write today for complete details and prices. Illinois Testing Laboratories, Inc., Room 529, 420 N. La Salle Street, Chicago 10, Illinois.

Send for Bulletin on 1500 Pyrometer.

Alnor PRECISION INSTRUMENTS FOR EVERY INDUSTRY

For more details circle NED-364 L3 on enclosed inquiry slip

FACTS ON THE FIRST SUCCESSFUL LIFT TRUCK WITH Torque Converter

- Increases clutch life 6 to 10 times!
- Lengthens engine life up to 50%!
- Permits start and stop on 20% grade . . . under full load!
- Loads speedily "inched" into position—eliminates clutch riding!

Available on all BUDA 3,000 to 7,500 lb. models. Installation can be made in the field.

FREE BOOK —gives complete information. Write today!

BUDA

THE BUDA COMPANY • HARVEY, ILLINOIS

For more details circle NED-365 L3 on enclosed inquiry slip

Rubber Expansion Joints . . .

Rubber Expansion Joints shown are just a few of the many furnished to a public utility, but adaptable to any pipeline installation for transporting liquids or gases where the temperature does not exceed the range of -10°F. to 200°F. For other temperature conditions, consult our engineers.

With a backlog of more than half a century of experience, La Favorite "know-how" is daily solving many complex problems which involve protection from corrosion and abrasion. Consult La Favorite Engineers, without obligation on your part.

Send blue prints for estimate on costs.

2340

LA FAVORITE RUBBER MFG. CO.

273 Wagaraw Road • Hawthorne, N. J.

RUBBER LININGS • RUBBER COVERING • RUBBER ENGINEERING

For more details circle NED-366 L3 on enclosed inquiry slip

REFLECTOR LAMP in 500 and 750-w sizes

A complete luminaire in itself, the R57 reflector lamp for industrial high bay lighting applications is offered in 500 and 750-w sizes. Hermetically sealed internal reflector of pure silver will remain brilliant over life-span of the lamp which is rated 2000 hours. Lamp's design results in minimum of dust and grime settling on under surface and obscuring light emission. Made by **Amplex Corp.**, Dept. RP, 111 Water St., Brooklyn 1, N. Y.

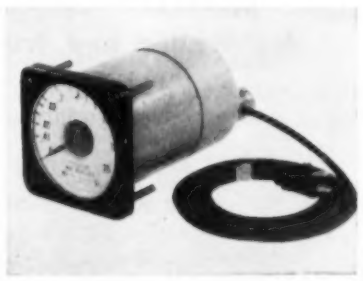
For more details circle NED-367 L3 on enclosed inquiry slip

LOADER-UNLOADER for freight cars and trucks

Developed for loading and unloading freight and baggage cars and highway trucks, this portable belt type loader-unloader is available in 11, 13 and 15-ft sizes. It has a ¾-hp motor and 16-in. wide belt. Motor has electrical control for two-way operation and the unit can be raised by hydraulic jacks at either end. The double-end Belt Booster can be used alone, or with roller or wheel conveyors. Made by **Harry J. Ferguson Co.**, 115 West Ave., Jenkintown, Pa.

For more details circle NED-368 L3 on enclosed inquiry slip

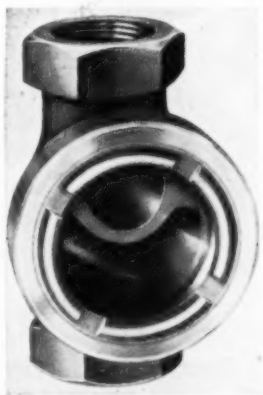
MOLECULAR VACUUM GAGE functions without external detector



Pressures can be measured without external detectors by this molecular vacuum gage in vacuum metallurgy and purification, manufacturing of refrigeration units and electronic tubes, vacuum coating and plating, chemical processes and laboratory research. Two available types, both covering range of 0-20 millimeters of dry air, are identical except for scale marking. One is calibrated for dry air, the other has a linear scale for individual calibration. Range of measurement is ½-microns to 20 millimeters of mercury. Face studs allow panel mounting of instrument, and tail pipe on rear provides length for coupling gage to vacuum system plumbing. Gage operates on 120 v, 60 cycles and weighs 5 lb. Made by **General Electric Co.**, Schenectady 5, N. Y.

For more details circle NED-369 L3 on enclosed inquiry slip

New Flow Indicator



These Sight Glasses were introduced at the request of steam trap users who wished to have a visual check on the operation of their traps, particularly when these discharge into a closed return system.

Such a Flow Indicator should be installed on the trap outlet close to the trap, at a point where it can be readily observed.

Through the window you can note whether the trap functions correctly and shuts off tightly.

The small cost can be saved by discovering a single leaky or balky trap.

The use of these indicators is not confined to steam traps. Large numbers are in use on cooling water, oil and other liquids not corrosive to the brass body.

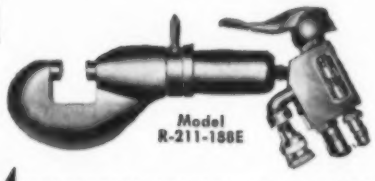
For further information, write to *Sarco Company, Inc., Empire State Building, New York 1, N. Y.*

Advt. 605

For more details circle NED-370 L3 on enclosed inquiry slip

NEW MANCO HYDRAULIC RIVETER

Here's fast, silent, and powerful hydraulic riveting. Riveting cycle only one second. Easy-to-operate hand lever valve mounted on riveting head. No solenoids. Capacity for ¼" and 5/16" rivets. Adjustable pressure setting for use on straight and shoulder rivets. Riveting yoke reach is 1¾" with a gap of 1⅜" including rivet sets. Other yokes also available. Full swivel about cylinder axis permits easy placement. Compact electric hydraulic pump. Weight of riveting head . . . 18 lbs.



Other Manco Riveters are available with capacities from 10 to 150 tons. Send us your riveting problem.

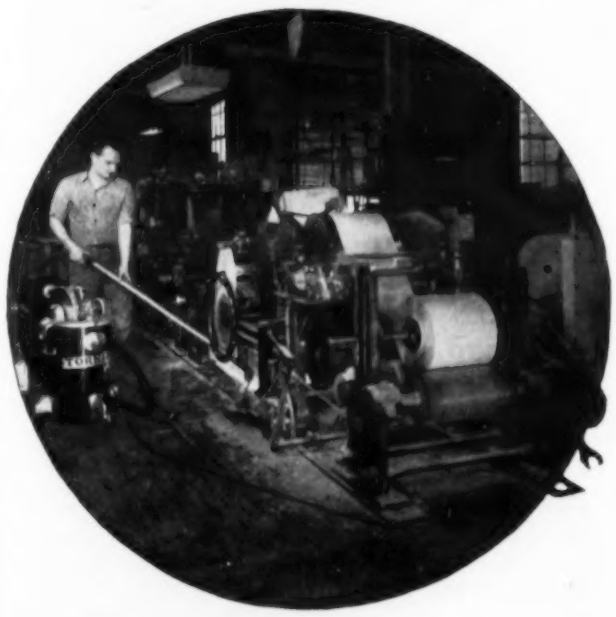
Dept. NED-11

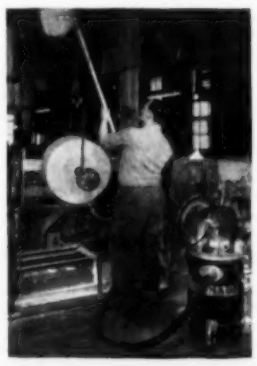
MANCO mfg. co.

Bradley, Illinois

For more details circle NED-371 L3 on enclosed inquiry slip

Housekeeping Headache Takes a Powder when TORNADO® goes to work





Overhead Too

Lightweight tools simplify cleaning of overhead fixtures and equipment.

The Standard Packaging Corp., Chicago, uses a fine drying powder in printing millions of foil milk bottle closures every day. This powder leaves a fine, dust-like deposit on their presses, floor and overhead fixtures.

To beat their housekeeping problem, Standard puts Tornado to work. Air rushing through this cleaner at more than 300 m.p.h. supplies plenty of powerful vacuum. This means faster, more thorough pressroom cleaning—and reduced maintenance costs.

If you have a problem with dirt, dust, chips, water or oil in your plant, find out how Tornado can clean things up—boost production by improving working conditions, efficiency and morale.

WRITE FOR YOUR COPY OF BULLETIN 600

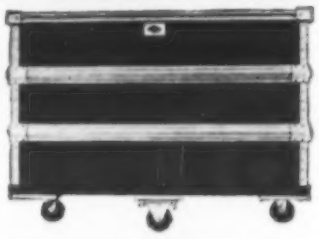
BREUER ELECTRIC MFG. CO.

5116 NORTH RAVENSWOOD AVENUE • CHICAGO 40, ILLINOIS

For more details circle NED-372 L3 on enclosed inquiry slip

DIAMOND FIBRE

SPARTAN TRUCKS



...LAST and LAST and LAST!

Buying the best in fibre trucks is easy once you get C-D-F's Receptacles Catalog R-52. This big book shows how Spartan Trucks are built for long life, complete protection of materials handled, smooth running swiveling.

There's an important difference in the way C-D-F builds a Spartan Truck . . . to your exact dimensions . . . with your choice of quality casters . . . from selected top grades of genuine C-D-F Diamond Vulcanized Fibre. Top rims are rust-resistant, with no overhang to snag materials or elbows. Diamond Fibre sides are smooth, tough, oil and grease resistant. Hardwood bottoms (solid or slatted) with a welded iron kickband. Rounded metal corners with eight corner rivets for super strength. Curved center bands.

A C-D-F Sales Engineer wants to put one Spartan Truck in your plant (our four plastics factories use hundreds). You compare it. Spartan Trucks have strong construction, better workmanship, top quality materials throughout, practical design . . . and longer life. They last and last and last!

THE NAME TO REMEMBER... DIAMOND FIBRE MATERIALS HANDLING EQUIPMENT

Continental-Diamond Fibre Company

NEWARK 30, DELAWARE

▲ For more details circle NED-373 L3 on enclosed inquiry slip ▲

NOW a NEW "Pencil Point" SOLDERING TOOL

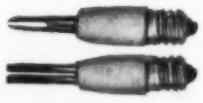
FOR SMALL OR MINIATURE WORK

IDEAL

Tips Screw In to Fit the Job

DOUBLE METALLIC

DOUBLE CARBON



Other Tips Available

INSTANT HEAT—

PINPOINT ACCURACY

NOTHING TO HOLD BUT AN ELECTRODE "PENCIL"

Pencil Thin for EASIER, FASTER, SOLDERING of:

- Electronic Circuits and Parts
- Aircraft Connectors
- Pin Type Plugs
- Wire-to-Wire
- Terminals
- Radio and TV Chassis
- Instruments
- Printed Circuits

Tips for Every Small Job

—2 sizes of double carbon, single carbon with ground clamp, double metallic. May also BE USED AS SOLDERING IRON—two sizes of chisel tip irons.

An all-new production tool that makes small and miniature soldering simpler and surer than ever before. Solders some joints in less than 1 second! . . . Lighter and easier to handle than soldering irons or guns—a woman can use it all day without fatigue! Check this unique combination of features:

GETS INTO SMALL, TIGHT SPOTS because of smaller electrode pencil.

NO HEAT DAMAGE—instant resistance heating makes sound joints before resistors, condensers, printed circuits, terminal fibre, etc., can be damaged. Pinpoints the heat!

NO "COLD FLOW JOINTS" — resistance principle *requires* that metal be heated before the solder will flow. Tap switch adjusts heat.

SAFE—soldering pencil uses harmless (6v) voltage and high amperage from separate step-down transformer.

LESS FIRE HAZARD—electrodes are hot only when in use.

LESS REPLACEMENT COST — only low cost electrodes to buy.

MAIL FOR FURTHER DATA

SOLD THROUGH LEADING DISTRIBUTORS

IDEAL INDUSTRIES, Inc.
1032 Park Avenue, SYCAMORE, ILLINOIS

Please send catalog data on NEW IDEAL THERMO-TIP

NAME.....

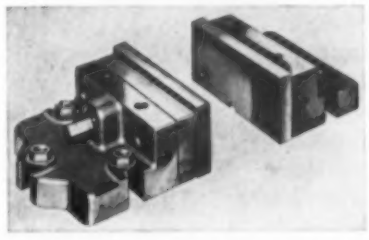
COMPANY.....

ADDRESS.....

CITY.....ZONE.....STATE.....

▲ For more details circle NED-374 L3 on enclosed inquiry slip ▲

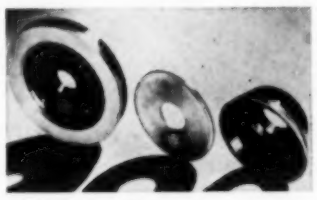
TWO-PIECE VISE for wide range of T-slot tables



For machines with T-slot tables and made in 6 and 8-in. sizes, this vise set consists of two completely independent members. Vise capacity is thus limited only by the length of the machine table, and jaws locate on the table and can be keyed to the T-slots for positive alignment. In addition to general purpose use, unit can also be employed as a milling fixture by fitting jaws equipped with centers and keyed to the T-slots, while the rigid base can be used as a separate angle block and the clamping base as a separate clamping device for holding work against stops. Holes are provided for hold-down straps and similar fittings. Made by **Rockford Engineered Products Co.,** Dept. 101, 2324-23rd Ave., Rockford, Ill.

▲ For more details circle NED-375 L3 on enclosed inquiry slip ▲

DIAMOND CUTTING WHEEL for rapid cutting of carbides

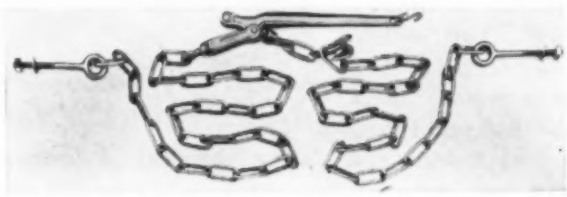


Jetaline diamond cutting wheel, when used with a coolant, will plunge cut a 1/8-in. slot in a 1-in. carbide blank in a single pass. Rapid action is due to use of an alloy metal bond which is nonglazing and nonloading, thus avoiding overheating and need for wheel redressing. Fine diamond meshes can be used for micron finishing, with the exact finish for any specified mesh being easily obtained. Made by **Action Diamond Tool Co.,** 4545 W. Grand Ave., Chicago 39, Ill.

▲ For more details circle NED-376 L3 on enclosed inquiry slip ▲

LOAD SUPPORT for trailer and truck bodies

This antispread device is designed for use as an adjustable load support to increase capacity and safety



by bracing sides of small trucks and trailers. Forged eye bolts are secured to trailer sides, and chain slack is taken up in the middle and locked by a 12-in. lever type load binder. Another version of the unit is equipped with a screw-type ratchet binder rated at 1-ton capacity. Made by **Canton Mfg. Co.,** 2300 Thirteenth St. N. E., Canton 7, O.

▲ For more details circle NED-377 L3 on enclosed inquiry slip ▲

METZGAR GRAVITY CONVEYORS

Life-time Construction

Means More for Your MONEY

Standard Sections Wheel-Roller Widths 11½"; 15"; 18" Lengths 8'; 10' Curves 45° - 90°

16 YEAR'S Continuous Service

..at no maintenance cost because Metzgar carries the load on these sturdy bearings — ¼" steel balls (Hoover or equal) spinning in hardened labyrinth ball races.

Standard in all Metzgar wheel and roller gravity Conveyors.

Write for descriptive folder.

METZGAR CO.

MFGRS. OF WHEEL & ROLLER GRAVITY & LIVE ROLLER CONVEYORS • POWER BELT CONVEYORS • SWITCHES • ACCESSORIES & REEL DOLLIES

416 Douglas, N. W.

GRAND RAPIDS 4, MICH.

▲ For more details circle NED-378 L3 on enclosed inquiry slip ▲

Make those **OPEN SPACES** *SAFE and USABLE* with this unique, one-piece **OPEN STEEL FLOORING**

SILENT! STRONG! SECURE!

Uncovered pits, light wells, cellar stairways, etc. quickly become safe and usable areas when floored with Blaw-Knox Electroforged Steel Grating. Made in one piece . . . no nuts or bolts to rattle or lose. Provides safe footing even when wet or greasy and lasts indefinitely. Admits maximum light and air. Furnished in any shape, cut to fit. Just send dimensional sketch of area to be covered and we will forward price by return mail.

BLAW-KNOX COMPANY, *Grating Department*
BLAW-KNOX EQUIPMENT DIVISION
2068 Farmers Bank Building, Pittsburgh 22, Pa.
Sterling 1-2700

ELECTROFORGED® STEEL

BLAW-KNOX GRATING

▲ For more details circle NED-379 L3 on enclosed inquiry slip ▲

HIGH AND LOW TEMPERATURES NEW BENCH-TYPE TEST UNIT

WEBBER

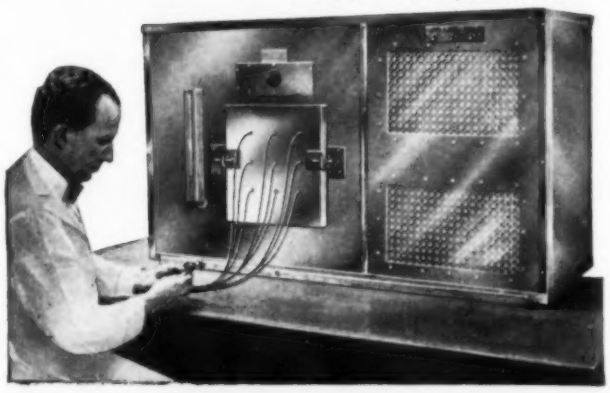
TRADE MARK REGISTERED

COMPLETE TEMPERATURE RANGE

TESTING UNITS

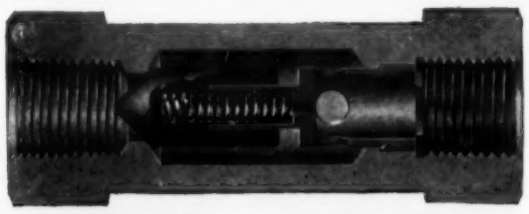
Combine high and low temperatures within the same cabinet with all controls self contained. Unit measures 50"x28"x20" with a testing chamber 12"x12"x12". Temperature range is from -80° F., to 185° F. Heat application is accomplished with reverse cycle refrigeration, which eliminates the hazards associated with open heating elements. A blower is provided for even distribution of temperatures and greater testing accuracy. Latch-type or hinge-type door optional. Accelerated pull-down to -80° in 30 minutes or less.

Write today for more complete information



INDUSTRIAL FREEZER DIVISION
WEBBER MANUFACTURING COMPANY, INC.
(Formerly Webber Appliance Co., Inc.)
2749 MADISON AVENUE • INDIANAPOLIS 3, INDIANA

▲ For more details circle NED-380 L3 on enclosed inquiry slip ▲



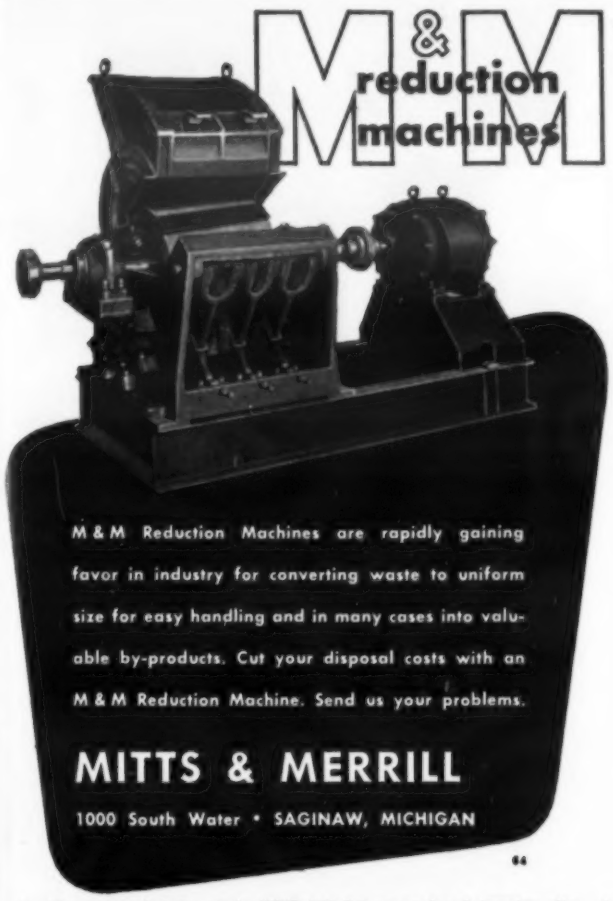
CHECK VALVES

- **ONE PIECE CONSTRUCTION**
  No welds or brazes to crack or fail — Available in ⅜", ½", ¾", 1" NPT line sizes
- **NYLON POPPET**
  Assures leak proof trouble-free service
- **LIGHT WEIGHT**
  Aluminum body and nylon poppet reduce overall weight and increase ease of handling during installation
- **LOW PRESSURE DROP**
  Minimum pressure loss thru valve at rated flow

Write for illustrated circular H

WATERMAN ENGINEERING Company
725 CUSTER AVENUE
EVANSTON, ILLINOIS

▲ For more details circle NED-381 L3 on enclosed inquiry slip ▲



For more details circle **NED-382 L3** on enclosed inquiry slip

NEW CLASS "B" insulation line anticipates smaller-motor trend

A comprehensive line of Class "B" insulation for motor windings is being developed by Irvington to meet the needs of the electrical industry for the high-temperature, space-saving insulations that will be required for the smaller frame sizes.

One of the many new types of Irvington class "B" insulation consists of Mylar bonded to asbestos paper.*

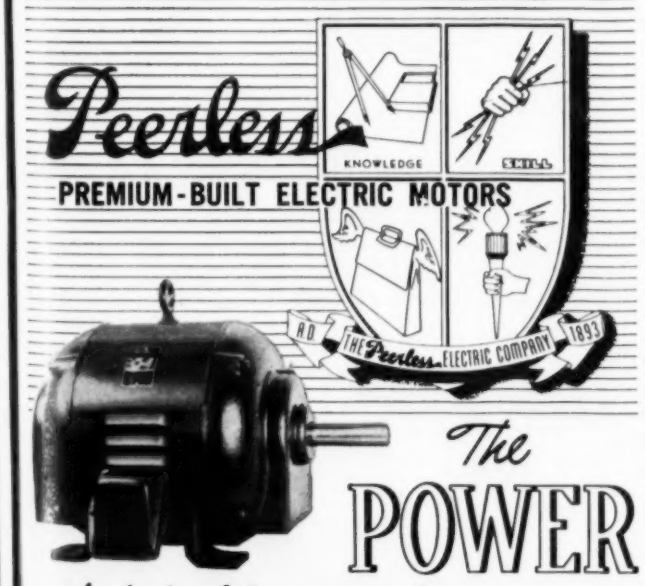
The new line — some members of which have already been placed on the market by Irvington—will consist of laminations of Mylar—a du Pont polyester film with a dielectric strength of 4,000 vpm—and asbestos paper, pure asbestos saturated with varnish, asbestos with inlaid glass fibers, Fiberglas** and other materials.

These new insulations, using a high-temperature Irvington adhesive, not only withstand temperatures above NEMA Class "B" specifications, but make possible additional space savings.

Irvington will provide test samples based on your specific requirements. Just write to: **Sales Mgr. Coating Div., Irvington Varnish and Insulator, Division Minnesota Mining & Manufacturing Co., 14 Argyle Terrace, Irvington 11, New Jersey.**

*T.M. Reg. U.S. Pat. off. by E. I. duPont De Nemours & Co., Inc.
**T.M. Reg. U.S. Pat. off. by Owens-Corning Fiberglas Corp.

For more details circle **NED-383 L3** on enclosed inquiry slip



The POWER

that builds reputations

Quality equipment producers protect themselves and you with Peerless premium-built electric motors.

Peerless Motors are expertly designed for these jobs . . . built by men skilled in their work . . . men who know the value of efficient, friendly service. The Peerless name . . . a name that for 60 years has stood as a symbol of quality and performance.

THE PEERLESS ELECTRIC COMPANY

MOTORS
FANS
BLOWERS

Peerless Electric

1415
W. MARKET ST.
WARREN, OHIO

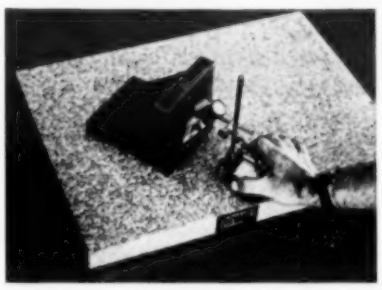
For more details circle **NED-384 L3** on enclosed inquiry slip

FEEDER-WEBBER
lays uniformly thick webs

Usable by processors of waste and staple fibers, model 84 Rando - Feeder and Rando-Webber lays random web of uniform thickness from paper-thin to 2-in. thick across the full 84-in. width. Tests indicate a production rate of 80 to 430 lb on waste and staple fibers. Typical users include makers of pressed or punched felt, unholstery, pads, wadding, base material for coated fabrics and reinforcement materials. Made by **Curlator Corp.**, Textile Div., 497 W. Commercial St., East Rochester, N. Y.

For more details circle **NED-385 L3** on enclosed inquiry slip

GRANITE SURFACE PLATES
finished on head of grain



Designed for use as reference plates in layout, inspection and assembly operations, these granite surface plates are finished on the head of the grain by a patented process. The stone from which they are fabricated is from the Rock of Ages quarry in Vermont, and is noted for close-knit composition, good texture and color tone. Made by **Bryant Chucking Grinder Co.**, Dept. NE, Springfield, Vt.

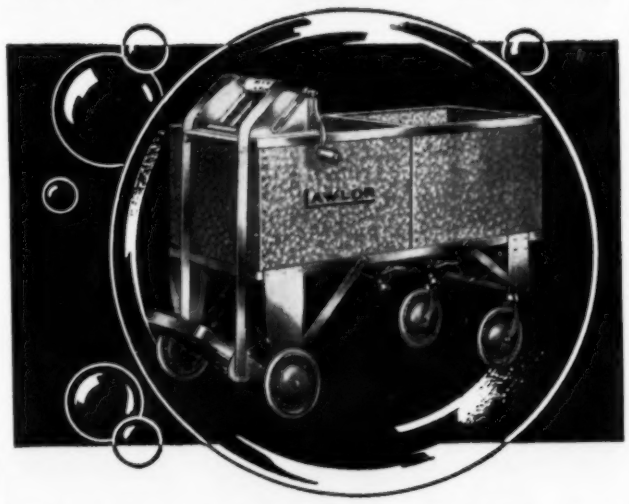
For more details circle **NED-386 L3** on enclosed inquiry slip

CENTRIFUGAL PUMPS
for air conditioning and refrigeration

Available in capacities from 5 to 50 gpm, with heads to 105 ft, and with ¼ to 1½-hp ratings, line of close-coupled centrifugal pumps is designed for air conditioning and refrigeration recirculation applications. Line has a standard NEMA motor frame, with permanently lubricated ball bearings, for single or three-phase 60 cycle current, and has self-lubricated mechanical shaft seal. Unit is compact, and can be mounted at any angle, while the discharge casing can be rotated to discharge in any of four directions. Made by **Marlow Pumps**, Ridgewood, N. J.

For more details circle **NED-387 L3** on enclosed inquiry slip

LAWLOR MOPPING TANKS
Lead the Field in Ruggedness and Service



8 styles and sizes of all steel, acetylene welded tanks • 2 or 3 compartments • 30, 60 or 65 gallon capacities • hand or foot pressure wringers • perforated roll wringers • special drain shut-offs • hot dipped, galvanized chassis and frames • rubber tired, cadmium plated steel wheels.

Write for Catalog of Mopping Tanks, Wringers, Floor Scrub Wax-Polishing Machines for every kind and size floor.

S. C. LAWLOR CO.
Quality Floor Equipment for 50 Years
131 N. Aberdeen St., Chicago 7, Ill.

For more details circle **NED-388 L3** on enclosed inquiry slip

they're SELF-LOCKING

IN ANY POSITION

on a threaded member

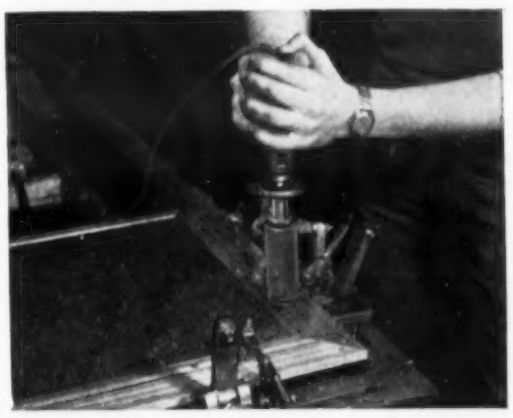
FLEXLOCS stay put in any position on a bolt or stud the moment the locking threads are fully engaged; they do not have to be seated. And FLEXLOCS stay tight, no matter how severe the vibration; are one piece, all metal; can be used repeatedly. One nut covers a temperature range up to 550° F. See your local industrial distributor for literature and samples or write SPS, Jenkintown 24, Pa.

Our Fiftieth Year : A START FOR THE FUTURE

FLEXLOC LOCKNUT DIVISION

SPS
JENKINTOWN PENNSYLVANIA

For more details circle **NED-389 L3** on enclosed inquiry slip



FASTENING WORK in the Moloney plant is quick and easy with Du Pont Explosive Rivets! Operator simply inserts Rivet in drilled hole—applies heated Du Pont Riveting Iron to head of Rivet—that's all! Almost instantly, the minute explosive charge contained in Rivet shank expands, forming a barrel-shaped head on shop end of Rivet that sets it in place. As many as 25 Rivets can be set a minute, with no after-finishing needed.

4 REASONS WHY
Large Aluminum-Door Manufacturer turned to DU PONT EXPLOSIVE RIVETS

After testing various types of fasteners, the Moloney Co., Alliance, Ohio, world's largest manufacturer of aluminum combination doors, now uses Du Pont Industrial Explosive Rivets exclusively. There are 4 very important reasons why:

1. FOR STRENGTH . . . Explosive Rivets increase stability of doors . . . help insure stronger, longer-lasting units.

2. FOR APPEARANCE . . . The trim, smooth head of Explosive Rivets adds to the smart appearance of Moloney doors . . . an appealing feature.

3. FOR DURABILITY . . . Once set, these fasteners stay set. Parts do not work loose.

4. FOR SPEED OF OPERATION . . . Split-second action of Explosive Rivets saves the plant hours of production time...permits meeting heavy schedules.

And Du Pont Industrial Explosive Rivets have helped in other ways. Each size has a wide grip range that allows fastening various thicknesses of material . . . cutting inventory costs. Explosive Rivets make fastening a one-man, one-side operation without a bucking bar . . . and are easy to set in both "blind" and open-seam riveting.

Many industries are using Du Pont Explosive Rivets to simplify and speed all types of fabricating jobs. Why not try them in your own fastening operations? For full information on types and sizes, contact your nearest Du Pont Refinish Service Warehouse, or write: E. I. du Pont de Nemours & Co. (Inc.), Explosives Department, Wilmington 98, Delaware.

DU PONT *Hi-Speed*
INDUSTRIAL EXPLOSIVE RIVETS
A Product of Du Pont Explosives Research

DUPONT — Better Things for Better Living . . . through Chemistry

For more details circle **NED-390 L3** on enclosed inquiry slip

TODAY'S BEST BUY!

Write for Details or See Your JOHNSON DEALER

MODEL J
10" x 18" Capacity

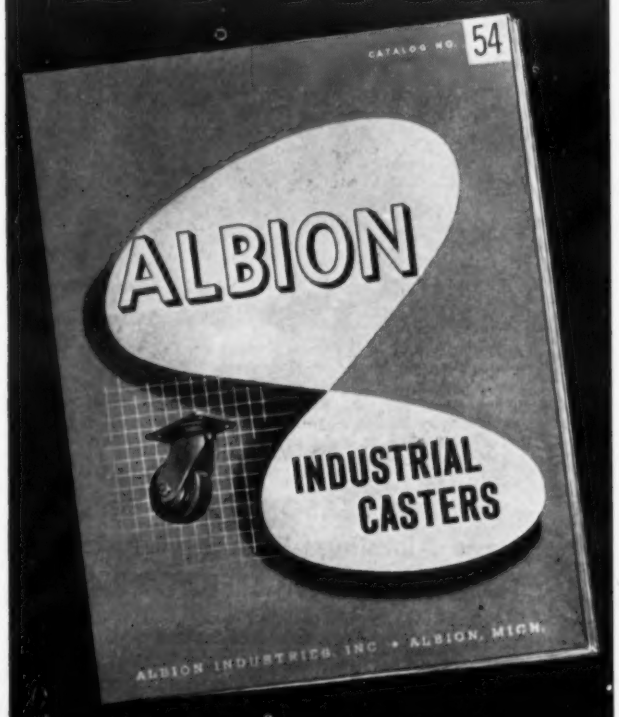
BONUS CAPACITY AT NO EXTRA COST

CUTS 10" ROUNDS, 18" FLATS

JOHNSON MANUFACTURING CORP.
ALBION, MICHIGAN

▲ For more details circle NED-391 L3 on enclosed inquiry slip ▲

it's Yours



FOR THE ASKING...

• Albion's big new '54 Catalog of Industrial Casters and Wheels. 24 pages of the latest, most modern casters and wheels ever developed for industrial users. Detailed illustrations and complete specifications, plus many helpful cost-cutting suggestions to help you solve your materials handling problems more economically.

Write today... for your own copy of this brand new '54 Albion Catalog. It's yours for the asking!

ai

Gentlemen... please rush me a copy of your new '54 Catalog of Industrial Casters and Wheels.

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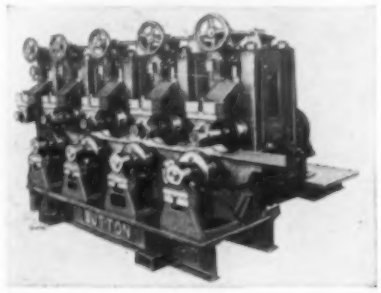
ALBION INDUSTRIES, INC.
804 North Clark Street • Albion, Michigan

▲ For more details circle NED-392 L3 on enclosed inquiry slip ▲

STRAIGHTENING MACHINE

handles squares, flats and shapes at speeds up to 400 ft per minute



Steel or nonferrous flats, squares or structural shapes can be handled by the 4D one-way flat and shape straightener at speeds up to 400 fpm. Capacity for squares and hexagons is ½ to 2½ in.; flats, ½ x ¾ to 4 x 1 in.; angles, 1¼ x 1¼ x ¼ to 4 x 4 x ¾ in.; and channels from 1½ to 4 in. In low carbon and annealed steels, somewhat larger sizes can be accommodated.

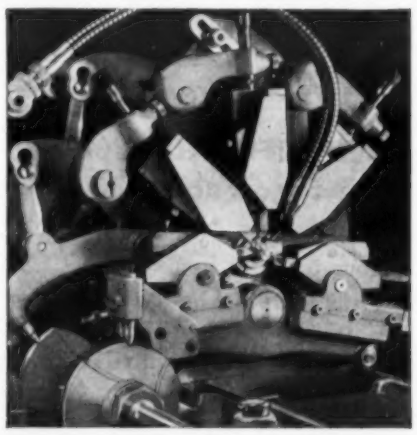
Design of outboard bearings allows fast roll change while retaining the machine strength of a double-housing unit. Five top pressure rolls can be staggered in relation to four bottom driven rolls and to each other for correction of side camber in the stock. Top roll housings adjust longitudinally on base for sharp deflection of small sections. Hand wheels control roll pressure.

Unit can be furnished as, or easily converted to, a two-plane straightener. Optional are motorized adjusting screws, or addition of tilting housings to remove twist from stock being straightened. Made by **Sutton Engineering Co.**, 1050 S. Potter St., Bellefonte, Pa.

▲ For more details circle NED-393 L3 on enclosed inquiry slip ▲

AUTOMATIC LATHE

Swiss type for small, slender parts



Accuracy, concentricity and high finish are given to the small, slender parts mass produced by the Howard D-500 Swiss-type automatic lathe. Capacity is ½-in., and parts up to 12 in. long, with total turned lengths not over 4 in., can be produced by using a stop attachment. Many of machine's features are the same as those of the Wickman No. 2, its predecessor. Improvements include heavier construction and higher speeds. Attachments for drilling, counterboring, tapping, threading, slotting and tapering are available. Many Wickman No. 2 parts are interchangeable. Made by **Detroit Cam & Tool Co.**, Suite 216, 195 W. Nine Mile Rd., Ferndale 20, Mich.

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DOLLIN Zinc & Aluminum DIE-CASTINGS

ALL SHAPES

ALL SIZES

ALL LOW COST

Investigate! Leading manufacturers specify Dollin Die-Castings for highest quality at lowest cost. Send prints or samples for quotation—engineering advice at no obligation. Literature on request.

DOLLIN CORPORATION 612 So. 21st St., Irvington 11, N. J.

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YOU GET STEADY FLOW WITH SPO AIR VIBRATORS

These low-cost units provide dependable hard-hitting vibration to keep bulk granular or powdered materials moving. SPO vibrators prevent jams in bins, hoppers and chutes . . . assure steady material flow at all times . . . eliminate production bottlenecks.

Long-lasting SPO vibrators incorporate a special corrosion-proof liner for full power starting, high speed operation and low air consumption. A complete range of types and sizes is available to meet all vibration needs.

SERIES 81

1460-81

Write today for Bulletin 50 for complete details.

SPO INCORPORATED
6475 Grand Division Avenue • Cleveland 25, Ohio

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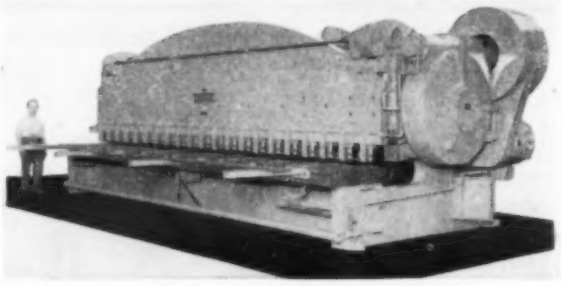

CINCINNATI ALL-STEEL SHEARS

are equipped with hydraulic hold downs, 4 edge knives, steel frames, precision gauges and other features.

From 10 ga to 1¼" capacity
4' to 24' in length

Write for Catalog S-6

THE CINCINNATI SHAPER CO.
CINCINNATI 25, OHIO, U.S.A. SHAPERS • SHEARS • BRAKES

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Their Good Looks Help Sell Your Original Equipment!

PIC STEEL UNIONS

You get eye-catching brightness as well as strength with a Pic — the 150 lb. steel union that's tailor-made for makers of original equipment. Ends are uniformly flat-sided for speedy installing with open end wrenches and the steel pipe coupling stock can take the most punishing wrenching. Special wedge-type bronze seat locks the union tight. Complete zinc plating (even on threads) says "no!" to rust. The cost? *Less* than a galvanized, *no more* than a black malleable union.

Write for Free Samples!

DART UNION COMPANY
132 Thurbers Avenue, Providence 5, R. I.

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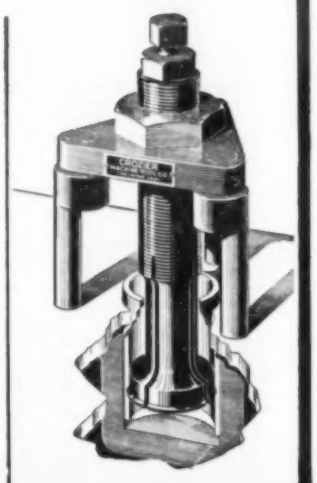
NEW EXTRACTOR

removes bushings from blind holes

...cuts time 75 per cent

The entirely new method of extracting bushings, bearings, sleeves, liners, etc. Eliminates necessity for machining, minimizes the hazard of injury to casings or excessive dismantling of equipment, handles holes from ½ to 2"—over 5 tons have been extracted with unit. Eliminates as much as 75 per cent of labor and time, slashes inventory.

For complete information write Department NED-9



CROZIER Machine Tool Co.

684 NO. PRAIRIE AVENUE, HAWTHORNE, CALIFORNIA

For more details circle NED-399 L3 on enclosed inquiry slip

Grounds upkeep and maintenance problems are solved quickly, easily and BETTER when you use the powerful 5-HP Gravely Tractor! . . . 21 tools for year-round use with seasonally selected attachments, quick change from job to job in minutes! Only the Gravely does so many jobs so well!

All-Gear Drive, Power Reverse. Institutions-tested for 32 years . . . Ask for your copy of FREE Gravely catalog. "Power vs. Drudgery." Find out how you can do MORE jobs faster and better. Write today!

GRAVELY TRACTORS, INC.

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For more details circle NED-400 L3 on enclosed inquiry slip

PRECISION MERCURIAL MANOMETER

Accuracy . . . .01 inches Hg.

Float Indicator . . . no meniscus errors

Temperature Compensation . . . no corrections

Write today for Publication No. TP-29-A

A-95

WALLACE & TIERNAN

ELECTRICAL MECHANISMS AND PRECISION INSTRUMENTS

Belleville 9, New Jersey

Represented in Principal Cities

In Canada, Wallace & Tiernan Products, Ltd.—Toronto

For more details circle NED-401 L3 on enclosed inquiry slip

SPACE HEATER

warm air type is oil fired, can be mounted as desired

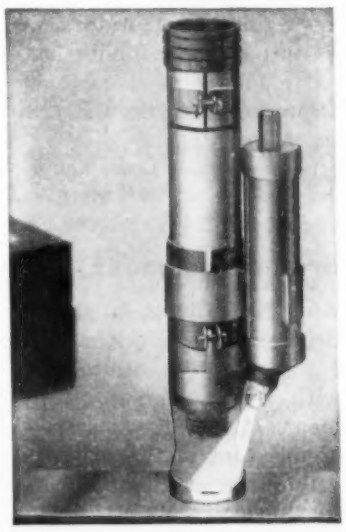
Known as the Paraflo, this light oil-fired warm air heater is manufactured in models with 200,000 and 250,000 Btu/hr outputs. Equipped with UL-approved gun-type oil burner, it is self-contained and flame-tested at factory before shipment. Better than 80 per cent efficiency is obtained by use of two-pass flame travel through a stainless steel combustion chamber and passage of hot gases through an economizer section. Combustion chamber is float-mounted, and no refractory is used. This permits heater to be mounted in any position and allows expansion stresses in the chamber to be relieved.

Output nozzles rotate through 360 degrees for heat directing, and unit will warm areas up to 90 ft away without creating drafts. Various safety features are incorporated, and unit operates on 110-v 60-cycle single phase power. Made by **Dravo Corp.**, Dept. NED, 1203 Dravo Bldg., Pittsburgh 22, Pa.

For more details circle NED-402 L3 on enclosed inquiry slip

BRINELL TEST READER

for any Brinell hardness tester



Diameters of indentations made by any Brinell hardness testing machine are measured with this microscope-reader which has a magnification of 20 diameters. Reticle in a flat-field optical system is illuminated by a light beam from a prefocussed battery-type illuminator. In use, the indentation is seen with the reticle superimposed. Scale on the reticle is calibrated in millimeters and tenths of millimeters and is 7 millimeters long. Field diameter of the instrument is 7.5 millimeters. Reader gives a completely accurate measurement of hardness, provides a means of checking the testing instrument and can also be used to make any flat microscopic measurement within its range. Made by **Pacific Transducer Corp.**, 11921 P. Pico Blvd., Los Angeles 64, Calif.

For more details circle NED-403 L3 on enclosed inquiry slip

CESCO safety equipment

Shows newest styles and designs of:

Aprons	Lenses
Helmets	Sleeves
Hoods	Guards
Shields	Respirators
Goggles	Spectacles

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OFFICES IN: Atlanta, Birmingham, Boston, Buffalo, Cincinnati, Cleveland, Columbus, Detroit, East Orange, Houston, Indianapolis, Kansas City, Knoxville, Little Rock, Los Angeles, Mexico City, D. F., Milwaukee, Montreal, Peoria, Philadelphia, Pittsburgh, Salt Lake City, San Francisco, Spokane, St. Louis, St. Paul, Toledo, Tulsa

For more details circle NED-404 L3 on enclosed inquiry slip

Sheehan's INDUSTRIAL CONVEYORS

FLAT TOP METAL BELT CONVEYORS

Versatile Durable Economical

Sheehan Flat Top Conveyors are being used to speed production parts through infra-red ovens, washing and degreasing operations. They are being used by food packing, metal working and many other industries in indoor installations and out of doors.

Metal belts of galvanized steel, electro-cadmium plated or stainless steel, driven by Sheehan Positive Drive Belt Sprocket assure production under many difficult conditions.

Sheehan Conveyors are designed to further production automation in every industry.

Complete literature and specifications for Sheehan Forge & Press Conveyors on request. Write or wire today!

Conveyors

R. T. SHEEHAN CO. PLYMOUTH, MICH.

For more details circle NED-405 L3 on enclosed inquiry slip

Want Your PLYWOOD "MEDIUM RARE"?

AETNAPLY PLUS VALUES

Over 50 species of Plywoods and Veneers Foreign and Domestic.

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Free Engineering Service to help you use plywood to your best advantage.

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24-hour Shipping Service.

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Direct mill shipments to your exact specifications.

◆

Other woodworking products: Glues, Sealers, etc.

We know it looks silly to compare a piece of plywood with a juicy steak, but we did it just to illustrate another AETNAPLY service.

You can order your plywood "Just the way you want it" when you order from AETNA. As a steak is ordered to suit your *taste*— Plywood is ordered to suit your *job*.

No matter what your production requirements are, check with AETNA. Do you want it cut-to-size; machined; dip-treated; sprayed? We'll furnish it that way. Do you require odd-shaped or odd-size stock? We'll furnish it as you want it when you want it.

Send your blueprints, specification sheets, or just the general idea. We'll work it out for you and send you a quote or the order—just the way you want it.

WRITE AETNA for the RIGHT PLYWOOD

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BRANCH WAREHOUSES: Grand Rapids 7, Mich.; Indianapolis 2, Ind.; Rockford, Ill.

PLYWOOD for every purpose — every industry

For more details circle NED-406 L3 on enclosed inquiry slip

QUALITY CONSCIOUS SPRING BUYERS CHOOSE

PARAGON SPRINGS

Springs from Paragon are good springs . . . because of our complete control during manufacture. Our customers know that even commercial springs are better from Paragon . . . at no extra cost. Whatever your requirements . . . Precision or Commercial . . . your orders and inquiries receive expert individual attention.

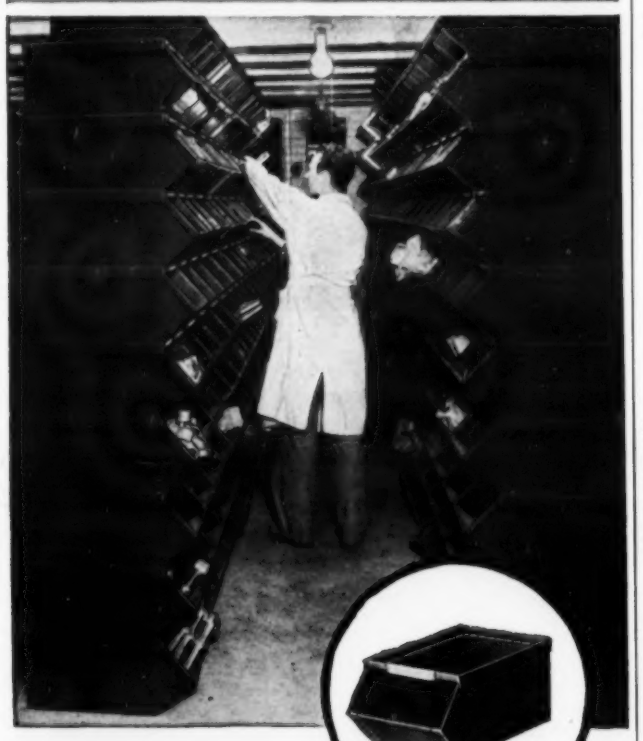
SEND SPECS FOR QUOTATION

Write for STOCK SPRING DATA SHEETS giving complete specs, loading and design information.

PARAGON SPRING COMPANY
4619 W. Fulton St. • Chicago 44, Ill.

For more details circle NED-400 L3 on enclosed inquiry slip

Bring parts closer to work



Replacing open pans, patented Stackbins® save space and bring parts in production closer to workers' hands—allow parts to be carried by truck, pallet, or conveyor from stock-rooms to assembly lines in Stackbins, without transferring contents. Stacking compactly, Stackbins with full-width hopper fronts and perfectly smooth interiors save labor, space and time in storage, production or assembly.

Write for new catalog describing entire Stackbin System of materials handling aids. Stackbin Corp., 1081 Main St., Pawtucket R. I.

Manufactured and sold in Canada exclusively by Wickware-Stackbin, Ltd., Ottawa.

STACKBIN SYSTEM
"Stacked and Still Accessible"

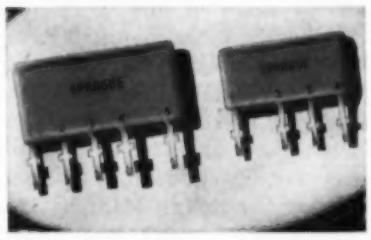
For more details circle NED-410 L3 on enclosed inquiry slip

REFLECTOR LAMPS
fourteen colors, various wattages

Colorbeam line of reflector lamps now comprises 14 permanent colors and bulb sizes and wattages ranging from 75 to 300 w. Colors include reds, blues, yellows, pinks and greens. R-30 "baby" Colorbeams and R-40 standard lamps are for indoor use, while Par 38 lamps are for both indoor and outdoor use. Hi-Dome design resists heat tension and increases bulb life. Rated average life is 2000 hr. Made by **Amplex Corp.**, Dept. CB, 111 Water St., Brooklyn 1, N. Y.

For more details circle NED-411 L3 on enclosed inquiry slip

RESISTOR-CAPACITOR NETWORKS
for assembly in printed circuits



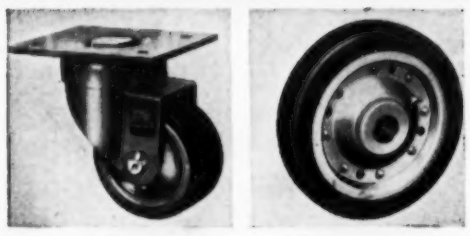
Designed for assembly in printed circuits on etched, sprayed, plated and stamped wiring boards, series of Bulplate resistor-capacitor networks features dagger terminals, convenient where wiring is used on both sides of board. Shoulders on tabs separate assembly from the wiring. With this terminal, Bulplates can be positioned to permit automatic assembly on boards with plate supporting itself during dip soldering operations. Various types of standard integrators, diode filters and decoupling, output and coupling networks now feature these terminals to meet customer specifications. Made by **Sprague Electric Co.**, 183 Marshall St., North Adams, Mass.

For more details circle NED-412 L3 on enclosed inquiry slip

SANDER-POLISHER
¼-in. electric drill attachment

Any make of ¼-in electric drill can be converted to a high speed sander-polisher with this universal attachment. It operates at a speed double that of the drill and employs orbital motion. Attachment is capable of finishing all woods, metals, plastics, plaster and other materials, as well as performing rubbing, waxing and polishing operations. It gets into "tight" corners and functions on flat, round or curved surfaces. Working surface is 3 2/3 x 7 in., and price is $15.95. Made by **Du-Fast, Inc.**, Dept. N, 32 E. Fourth St., New York 3, N. Y.

For more details circle NED-413 L3 on enclosed inquiry slip



For Greater Economy

DARNELL CASTERS & WHEELS

Free Manual

DARNELL CORPORATION, LTD.
DOWNEY (LOS ANGELES COUNTY) CALIFORNIA
60 WALKER STREET, NEW YORK 13, NEW YORK
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For more details circle NED-414 L3 on enclosed inquiry slip

gas carburize clean harden draw | in one atmotrol pit furnace

How versatile can a batch furnace get? Here's a good answer: a single Surface Combustion "Atmotrol" pit type controlled atmosphere furnace can clean harden, carburize, and draw a wide variety of parts with maximum flexibility and shortest interruptions. Furnace operation can be scheduled to deliver maximum output when you need it. For gas carburizing, team up the "Atmotrol" with a Surface MRX atmosphere generator. Lower part of furnace is easily accessible for routine servicing. Whatever your heat treat requirements, ask us for advance proof of performance in Surface Combustion Standard Rated Furnaces. Write for literature Group H-22.

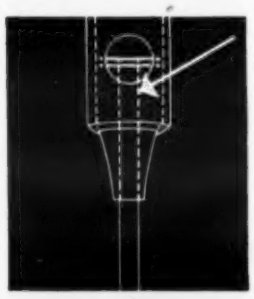
Surface
HEAT TREATING EQUIPMENT

SURFACE COMBUSTION CORPORATION, TOLEDO 1, OHIO
ALSO MAKERS OF JANITROL SPACE HEATING—KATHABAR HUMIDITY CONDITIONING

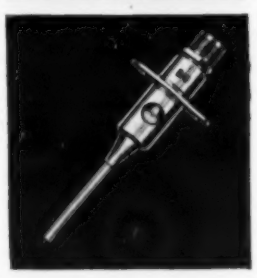
For more details circle NED-415 L3 on enclosed inquiry slip

Tube Talk THE "HOW-TO" COLUMN

PROBLEM:
The B.G. Corporation, makers of B.G. Spark Plugs, had trouble locating tubing with very close I.D. tolerance and good fabrication properties for electrodes of jet engine igniters that would withstand corrosive action of gases at 1800°F. Most materials corroded or eroded rapidly.



SOLUTION:
Superior Inconel* tubing .196/.200 O.D. x .129/.131 I.D.



RESULTS:
Superior Inconel tubing provides better resistance to erosion and corrosion than any other materials used, has low thermal expansion so that it doesn't crack ceramic insulation, is easy to flare, ream and mill. It is not adversely affected by hydrogen brazing.

Suggestion—Write for information and literature today.

SUPERIOR TUBE COMPANY
2018 Germantown Ave., Norristown, Pa.

*Reg. U.S. Trade mark—The International Nickel Company.

For more details circle NED-416 L3 on enclosed inquiry slip

The All New MOBILIFT 4000 Pounder
Has Everything You Want in a "Sit-Down" FORK LIFT TRUCK

MODEL D-424
4,000 lbs. capacity at 24" Load Center
83" hydraulic mast lift height 108"

Check these trend-setting features . . .
- CHRYSLER 65-bhp 6 cyl. GAS ENGINE.
- CHRYSLER GYROL FLUID COUPLING.
- MOBILIFT CONSTANT-MESH TRANSMISSION with a Push-Pull Lev-R-Matic Control for forward and reverse—No Clutch Pedal—No Gears to Shift—2 speeds forward, 2 reverse.
- MOBILIFT FULL-FLOATING DRIVE AXLE.
- BALL-BEARING WORM & NUT TYPE STEERING.
- HYDRAULIC BRAKES.
- EASY TO GET ON AND OFF—NO OBSTRUCTIONS.
- FREE ACCESS FROM LEFT OR RIGHT SIDE.
- ONE-PIECE HOOD RAISES FOR EASY SERVICE ACCESSIBILITY.

Write for complete details

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2317 W. 18TH, CHICAGO • 730 PATTERSON, E. RUTHERFORD, N. J.
2724 TAYLOR STREET, DALLAS • 2730 SAN PABLO AVE., BERKELEY
1113 SPRING STREET, N.W., ATLANTA

For more details circle NED-417 L3 on enclosed inquiry slip

The Simplest Way to
SOLVE SCALE PROBLEMS

PATS. APPLIED FOR

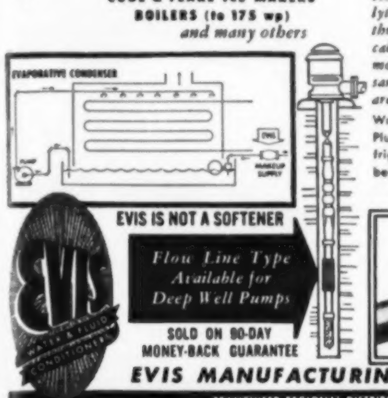
Proven Uses Include
ALL PIPING SYSTEMS
CONDENSERS (most types)
COOLING TOWERS
ENGINES & COMPRESSORS
CUBE & FLAKE ICE MAKERS
BOILERS (to 175 wp)
and many others

"*bet bet yet!*"

EVIS *Water Conditioners are helping industry conquer its costly scale problems. Plant equipment is made to operate at higher efficiency. Maintenance costs are profitably lowered and shut-downs for periodic clean-ups are often entirely eliminated. The EVIS units are Specially Processed to impart a continuous catalytic action on water-solids flowing through it. This action alters physical behavior sufficiently to inhibit most scale formations. Many thousands of EVIS Water Conditioners are now in service.*

Write for further information or ask your Plumbing Supply, Air-Conditioning-Refrigeration or Industrial Equipment Jobber.

SIZES | ⅜" thru 2" screwed; 2" thru 12" flanged



EVIS IS NOT A SOFTENER

Flow Line Type Available for Deep Well Pumps

SOLD ON 90-DAY MONEY-BACK GUARANTEE

EVIS MANUFACTURING CO. 40 Boardman Place San Francisco 3, California

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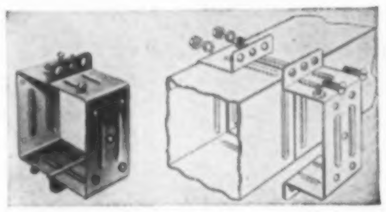
DALLAS EVIS-SOUTHWEST CO. 6837 Chevy Chase, EM-0137
ATLANTA EVIS-SOUTHEAST CO. 735 Spring St., N.W., VE-0241
PHILADELPHIA EVIS-MIDEAST CO. 4 E. Richmond St., NE 4-0855
ALBANY (New York) EVIS-NORTHEAST CO. 17 Rapple Dr., UN 9-7921
EXCLUSIVE MARINE DIST. MORAN-EVIS CO., SAN FRANCISCO 420 Market St., DO 2-4565

▲ For more details circle **NED-418 L3** on enclosed inquiry slip ▲

WIREWAY COUPLING
joins electric raceway sections



Hinged 4 x 4-in. electrical raceway sections 1, 2 and 5 ft long are readily aligned and joined together with this two-piece squeeze-type Wirewa coupling. Assembled with cadmium plated bolts, lock washers and hex nuts, coupling is also suitable for attaching hanger support. Coupling permits flush wall mounting of raceway. Made by **National Electric Products Corp.,** Room 902, Gateway Center, Pittsburgh 22, Pa.

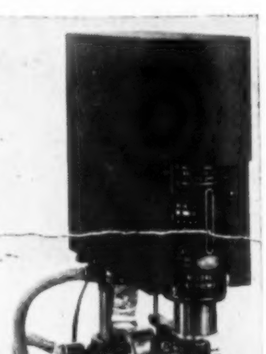
▲ For more details circle **NED-420 L3** on enclosed inquiry slip ▲

POTENTIOMETERS
for servomechanisms and recorders

For servomechanisms, recorders and indicating instruments, type 2X precision potentiometer incorporates a device which permits coupling from two to ten units on a standard length shaft. Unit is available with ball or Oilite bearings as specified, and has linear resistance of 100 to 100,000 ohms with 0.5 linearity. For experimental purposes, it is also made with adjustable taps. Nonlinear units are also available for special requirements. Made by **Maurey Instrument Co.,** Dept. N, 2452 E. 72nd St., Chicago 49, Ill.

▲ For more details circle **NED-421 L3** on enclosed inquiry slip ▲

WELDING HEAD
for Raytheon 225A control unit



Designed for use with the Raytheon model 225A transformer and control unit, model ILS head has accurate welding pressure and follow-up controls with welding pressures variable between a minimum of 2 and maximum of 30 lb. Visual scale indicates pressure, and the press-type head is foot operated. Lower electrode can be used on vertical or horizontal planes, and electrode sizes range from ¼ to 5/16-in. OD. This equipment combines regulated weld pressure and capacitor-type discharge for welding of the "difficult" metals and alloys. Further information is available from **Raytheon Mfg. Co.,** Dept. 6470-NR, Waltham 54, Mass.

▲ For more details circle **NED-422 L3** on enclosed inquiry slip ▲

NEW! FAST! EASY!

PRINT FACSIMILE LABELS DIRECT TO CONTAINERS

Here's the new system that eliminates labels and the old stencil board—ink brush method of addressing and marking shipping containers. With the new Web-O-Print JC-3 hand printer and a Kustom-Kut (die-cut) stencil, you can print both facsimile label and shipping information direct to cartons or boxes *in one operation* . . . at the rate of 40 to 50 cases per minute!

Kustom-Kut stencils are pre-cut to print your label or form. Address and other variable information are typed in . . . stencil is quickly attached to Web-O-Print . . . label and address are then printed on container in a single movement.

Web-O-Printing is a fast, clean one-hand operation. Prints on rough and cylindrical surfaces. Leaves a sharp, compact, fade-proof and waterproof print. Can be easily blocked out for re-shipping.

FREE SAMPLE PRINT Write today for a sample print and information on trial offer. No obligation.

Weber LABEL AND MARKING SYSTEMS
Division of Weber Addressing Machine Co.
Dept. NE-4, Mount Prospect, Ill.

▲ For more details circle **NED-424 L3** on enclosed inquiry slip ▲

Automatic Liquid Proportioner

Are you feeding one liquid into another on a fixed percentage basis? If so, why not do it both automatically — and economically?

This Rockwood Eductor, used in fire fighting for automatically introducing 3 parts of Rockwood FOAM into 97 parts of water, can also be used for many other purposes. It is "tapped" into the line containing the basic liquid. Then it automatically introduces the other liquid into the line at a predetermined rate. Excellent for dust control and many other uses.

Send us your particular liquid-proportioning problem and Rockwood engineers will gladly show you whether the Rockwood Eductor can automatically solve it for you.

ROCKWOOD SPRINKLER COMPANY
Engineers Water . . . to Cut Fire Losses
Portable Fire Protection Division
44 HARLOW STREET, WORCESTER, MASS.

▲ For more details circle **NED-425 L3** on enclosed inquiry slip ▲

Electrolizing

ADDS 200% TO 800% LONGER LIFE
to metal parts affected by wear, abrasion or corrosion

Is your problem wear, abrasion or corrosion of metal parts? Then you will be interested in the facts and figures from major companies which conclusively prove that ELECTROLIZING increases part life 200 to 800%!

These manufacturers specify ELECTROLIZING for hydraulic equipment, precision instrument parts, fuel control components, gears, pumps, pistons, valves, shafts, impellers and other metal parts.

HERE'S A CASE IN POINT:

A manufacturer of fuel metering equipment submitted test parts to ELECTROLIZING in an effort to solve the related problems of wear and fretting corrosion. The following is a condensed report of their laboratory observations.*

"NO signs of CORROSION after 72-hour salt spray test per A.S.T.M. specification.

"NO signs of WEAR after 400-hour endurance test.

"NO signs of FRETTING CORROSION after 50-hour vibration test."

Repetitive tests resulted in ELECTROLIZING being specified on all bushings and shafts to prevent malfunctioning of the assembly.

Whether your problem is wear, abrasion, or corrosion, ELECTROLIZING can provide the solution. Our staff engineers are available for consultation without obligation.

Write for new booklet describing *ELECTROLIZING* and its advantages. **Name on request*

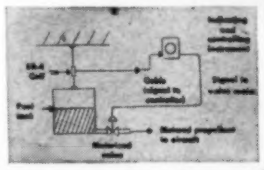
THE *Electrolizing* CORPORATION
1505B EAST END AVENUE, CHICAGO HEIGHTS, ILLINOIS
Plants
Providence 1, R. I. 148 W. River St. — Cleveland 10, Ohio 1650 Collamer Rd. — Chicago Heights, Illinois 1505B East End Ave.
Los Angeles, Calif., 1406 East 15th St.

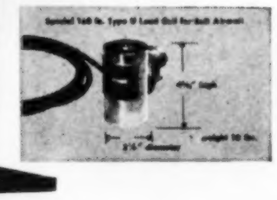
▲ For more details circle **NED-419 L3** on enclosed inquiry slip ▲

THE PROBLEM
For their rocket engine research and production, Bell Aircraft Corporation was designing a new instrumentation system. Their problem was finding a way to meter the propellant consumption remotely.

THE BALDWIN SOLUTION
The fuel feed tank is suspended from a cable attached to a Baldwin SR-4, 160 lb. load cell which supports the weight of the tank and fuel.

SR-4 DEVICES IN INDUSTRY . . .
USES UNLIMITED





This system benefits Bell in these three ways:

1. The fuel consumption can be indicated and controlled remotely because the only connection from the SR-4 cell to the instrument is through electric cable.

2. Because of special aluminum construction this cell resists corrosion by common propellants such as hydrogen peroxide and nitric acid provided that cell is washed off after any accidental contact with them.

3. The need for maintenance is virtually eliminated by the rugged construction and by the absence of moving parts.

The uses of SR-4 devices throughout industry are unlimited. For further information about how they might cut your costs and time for measuring loads, pressure or torque, please write Dept. 3129, Baldwin-Lima-Hamilton Corporation, Philadelphia 42, Pennsylvania.

TESTING HEADQUARTERS
BALDWIN-LIMA-HAMILTON
General Offices: Philadelphia 42, Pa. • Offices in Principal Cities

▲ For more details circle **NED-423 L3** on enclosed inquiry slip ▲

THERE'S ROOM FOR THIS FOOT SAFETY IN ANY BUDGET

Pattern shown ½ actual size

Economical is the word for A.W. Super-Diamond Safety Floor Plate. No other flooring gives you more foot safety, ease of maintenance, durability—at such low cost.

SUPER-DIAMOND gives real underfoot safety. Its exclusive, engineered raised-diamond pattern puts 40 anti-skid traction points in every footstep. Super-Diamond means low-cost maintenance. It's easy to clean with hose, mop or broom—and has no cracks or corners to catch and hold dirt. Finally, Super-Diamond lasts a lifetime. It withstands hard blows and heavy loads—resists heat, fire and most chemicals.

For safety with economy, learn the facts about A.W. Super-Diamond. The handy coupon brings you our newest booklet on floor safety.

A.W. SUPER-DIAMOND
ROLLED STEEL FLOOR PLATE

ALAN WOOD STEEL COMPANY
CONSHOHOCKEN, PA.

Please send me, without charge, your latest booklet SD-44 on Super-Diamond safety.

*Name*__________
*Company*__________
*Address*______ *City*______ *State*______

▲ For more details circle **NED-426 L3** on enclosed inquiry slip ▲

RITE-HITE

ADJUSTABLE LOADING DOCKS

- Make a perfect BRIDGE between truck and dock.
- Quick Fingertip Control. One man sets vertical and lateral adjustment instantly.
- Save Crew and Carrier Time.
- Provide smooth "No-Bump" travel.
- Prevent damage to material.
- Easy to install, no costly machinery, no electric or fluid controls, no piping, no lubrication.

Speed Up Cross Dock Operations by installing **RITE-HITE** *Adjustable Loading Docks.*

For complete facts, sizes and capacities, write to: Dept. 14

LOOMIS MACHINE CO. • CLARE, MICH.
RITE-HITE DIVISION

For more details circle **NED-427 L3** on enclosed inquiry slip

WE'LL SEND YOU THIS WHOLESALE CATALOG **FREE!**

Save Money

OVER 9,000 ITEMS INCLUDING

THE HARRY ALTER CO.
1726 S. MICHIGAN AVE., CHICAGO 16
132 LAFAYETTE ST., NEW YORK 13

For more details circle **NED-428 L3** on enclosed inquiry slip

get the facts

32 informative pages on

LAMSON BILLMYRE BLOWERS & EXHAUSTERS

"...a complete file of blower and exhauster information—Fundamental Engineering Laws for Blower Applications, Blower Engineering Tables, Blower Operating Features, application data, and lots more—all in one handy catalog.

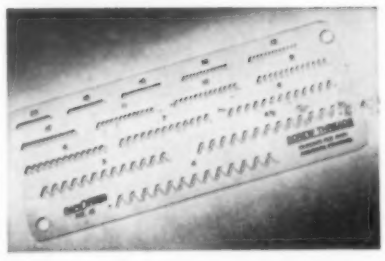
LAMSON

We have a copy for you . . . just clip this coupon to your signed letterhead and mail.

LAMSON CORPORATION
211 Lamson Street, Syracuse 1, N. Y.
Gentlemen:
Without any obligation on my part, please send me my copy of the Lamson Billmyre Blower and Exhauster Catalog B-6.
Name_____ Title_____
Company_____
Address_____
City_____ Zone____ State____ 8804

For more details circle **NED-429 L3** on enclosed inquiry slip

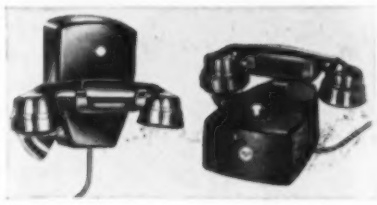
SCREW THREAD TEMPLATE
covers common American standards



For drawing the outlines of screw threads, No. 15 template covers the entire range from 20 to 4 threads per inch of the most commonly used American Standard types. This range encompasses all standard screw diameters from ¼ to 4 in. Template is made of cured mathematical quality plastic, and measures 6⅞ x 2¾ in. Price is $2.50. Made by **Rapidesign, Inc.,** P. O. Box 592A, Glendale, Calif.

For more details circle **NED-430 L3** on enclosed inquiry slip

TWO-PHONE INTERCOM
operates on one 6-v battery



Operating more than a year on a single 6-v battery, Duo-Com is a two-phone intercommunications system by which contact from point to point is made by lifting the receiver and depressing a button. Dialing, switchboard and press-to-talk keys are unnecessary. Equipment is packaged with installation instructions. It provides natural voice reception. Made by **Radio Corp. of America,** RCA Victor Div., Engineering Products Dept., Camden 2, N. J.

For more details circle **NED-431 L3** on enclosed inquiry slip

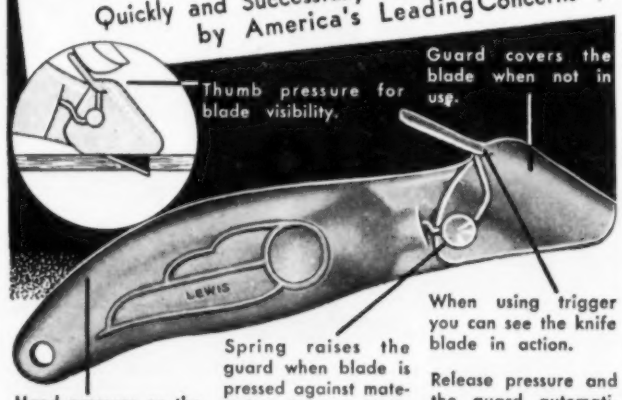
FORK TRUCK
for congested area uses

Cargo Scout is an electric-powered 2000-lb capacity fork truck which is designed for use in narrow aisles, freight car and highway truck loading and unloading, and on small elevators. Three-wheeled truck features end control for operator convenience, 43½-in. wheelbase, device to eliminate steering wheel kick-back, 68-in. high uprights, full initial lift for stacking in low headroom areas and heavy duty axle. Contactor control permits smooth starts, one handle controlling four speeds in both directions. Made by **Elwell-Parker Electric Co.,** 4502 St. Clair Ave., Cleveland 3, O.

For more details circle **NED-432 L3** on enclosed inquiry slip

NEW! LEWIS AUTOMATIC TRIGGER ACTION SAFETY KNIFE

Quickly and Successfully Adopted for Use by America's Leading Concerns



No other cutting tool like it. Eliminates the hazards of exposed cutting blades. You must operate it to appreciate its swift and sharp cutting . . . always automatically ready for use. Trigger action gives full blade visibility with safety.

Retail Price $1.50

FLASH BOX OPENER CO., Inc.
52 W. Houston St. • New York 12, N. Y.

For more details circle **NED-433 L3** on enclosed inquiry slip

Wolverine Heavy Duty **QUICK ACTION TOGGLE CLAMPS**

***Extra* CLEARANCE**
***Extra* SPEED**

Rugged construction—drop forgings, cast steel and solid bar stock.

• • •

Wolverine Toggle Clamps also available in several types and sizes of Standard Action and Push Action units.

• • •

Wolverine Clamps are in use in almost every major industrial field and are specified by prominent engineering firms. Write for Bulletin.

WOLVERINE TOOL CO.
1482 E. WOODBRIDGE
DETROIT 7, MICHIGAN

For more details circle **NED-434 L3** on enclosed inquiry slip

Exclusively in

WESTON *all-metal* THERMOMETERS

Although WESTON provides sensing elements of various forms for special applications, the element in all standard WESTON Industrial Thermometers is a *multiple helix* as illustrated above. Why the more costly *multiple,* instead of the single, helix? *Just one reason.* WESTON's twenty years' experience producing bi-metal thermometers for industry has furnished convincing proof that the shorter, non-sagging *multiple* helix provides better accuracy, over longer periods. And while it provides other advantages, the one thing most thermometer buyers demand is long-term dependability. You get it, in extra measure, in WESTON Thermometers with *multiple* helix. WESTON Electrical Instrument Corp., 614 Frelinghuysen Avenue, Newark 5, N. J.

Stocked by leading Distributors

WESTON *Thermometers*

For more details circle **NED-435 L3** on enclosed inquiry slip

Hear HERE!

Model 211 Floor Booth

Model 602 Wall Booth

LOUDNESS REDUCED 50%*

Inside a Burgess-Manning Acousti-Booth

- The hushed interior of a Burgess-Manning Acousti-Booth provides a quiet, restful place to hear well.
- Light, sturdy construction for ease of moving . . . compact design.
- Doorless construction . . . light, airy, well ventilated.
- Wall and floor models.
- Suited to any noisy location.

** Based on studies by a prominent research organization.*

Write for Bulletin A-107

BURGESS-MANNING COMPANY

Architectural Products Division

5970-C Northwest Highway, Chicago 31, Illinois

For more details circle **NED-436 L3** on enclosed inquiry slip

FAST, ACCURATE BENDS with DI-ACRO* Hydra-Power Bender

Simple and complex bends are readily formed and duplicated in many ductile materials with hydraulically operated Di-Acro Benders. The Bender can be delivered completely tooled for bending tubing, moulding, extrusions and other solid materials. Tooling can be made in your own plant if you prefer.

SEND FOR 32-PAGE CATALOG

Gives complete information on Di-Acro Hydra-Power and hand Benders. Also describes hand and power operated Di-Acro Brakes, Notchers, Punch Presses, Rod Parters, Rollers and Shears.

**pronounced Die-ack-ro*

Creators of "Die-Less Duplicating"

di-acro PRECISION METALWORKING MACHINES

O'NEIL-IRWIN MFG. CO.,
354 8th Avenue • Lake City, Minn.

For more details circle **NED-437 L3** on enclosed inquiry slip

NOEL/TING

Faultless ENGINEERED TRUCK CASTERS CUT HANDLING COSTS

A fast flowing production line on Faultless Casters produces *more* of *anything* with less manpower and effort. It's your *practical solution* to cutting handling costs.

200 Series Double Ball Bearing Swivel Plate Caster with Plaskite Wheel

H300-V Series Swivel Plate Caster with Grooved Wheel

Regardless of what you handle or make, there is a Faultless Caster especially suited to your job. Wheel diameters range from 2" to 12"—load cap. from 65 lbs. to 9 tons ea.

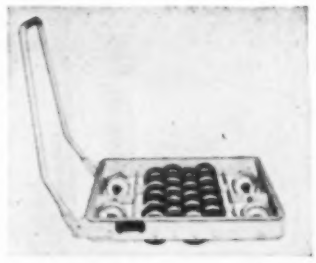
FAULTLESS CASTER CORP.

Dept. NE-8, Evansville 7, Indiana

Branches in Principal Cities—Canada Factory: Stratford, Ont.

For more details circle **NED-438 L3** on enclosed inquiry slip

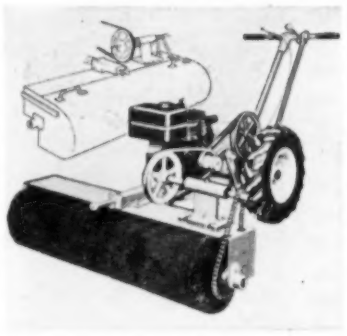
UNIVERSAL PALLET DOLLY has 24 six-in. load wheels



Rolling and steering over any type floor without swivel casters, Roll Rite universal pallet dolly has 24 six-in. wheels supporting load and providing surface contact on rough surfaces. These wheels are available with aluminum alloy or rubber tread. Front and rear wheels are mounted on spring-loaded axles to assist in guiding the loaded pallet when turning. Standard sizes are 30 x 40 and 40 x 48 in., though larger sizes can also be supplied. Made by **Roll Rite Corp.**, 801 Jefferson St., Oakland 7, Calif.

For more details circle **NED-439 L3** on enclosed inquiry slip

POWER SWEEPER for large floor areas



Independently powered, this industrial sweeper is designed for application in large pavement and floor areas, and is suited for all general purpose work, including picking up metal shavings. A metal hopper with a 100-lb capacity snaps on the front of the brush and has a handle on each side for carrying. Brush has 10-in. diameter and 36-in. length, and is chain driven. Made by **Eshelman Co.**, Dept. NE, 119 Light St., Baltimore 2, Md.

For more details circle **NED-440 L3** on enclosed inquiry slip

WIRE STRIPPER for single and double strand wire

Model 105 wire scraper rapidly and cleanly strips textile serving and enamel from multi-strand wire up to No. 44 and single strand wire from 16 to 40 B & S. Wire is stripped to within ¼-in. of the coil by passing through a safety guard between two wire brushes operated at 3400 rpm. Cleaning pressure is regulated by adjusting the top brush. Reversing feature lengthens brush life. Wire and glass fiber brushes are available. Unit is portable. Made by **Geo. Stevens Mfg. Co.**, 6024 N. Rogers Ave., Chicago 30, Ill.

For more details circle **NED-441 L3** on enclosed inquiry slip

have you a CORROSION problem?

BOLTS • NUTS
SCREWS • RIVETS
COTTER PINS
WASHERS
SPECIALS

IN BRASS
SILICON BRONZE
NAVAL BRONZE
COPPER
NICKEL
ALUMINUM
MONEL
STAINLESS STEEL

Harper Everlasting Fastenings are corrosion-resistant—produced from non-ferrous metals and all stainless steels. For fastenings that improve the appearance of your equipment—add years to its life, call Harper—largest manufacturer in its field. Over 7,000 different items in stock to meet your requirements. Write for catalog.

HARPER EVERLASTING FASTENINGS

The H. M. Harper Company
8212 Lehigh Avenue
Morton Grove, Illinois

Please send me Harper Catalog 25.

Name.....
Company.....
Address.....
City.....State.....

For more details circle **NED-442 L3** on enclosed inquiry slip

Take-off problem? TRY ANGLgear

Photograph courtesy Doughnut Corporation of America

D. C. A. engineers needed a right-angle power take-off for the table drive in this semi-automatic doughnut cutter. Custom-made take-offs would have been expensive and unwieldy. ANGLgear was tried, and its small size, plus high capacity, filled the bill.

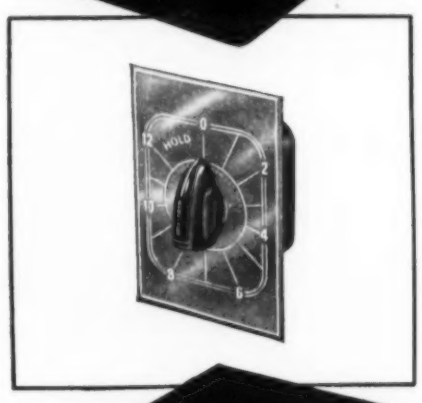
ANGLgears are rated up to 1 hp at 1800 rpm. Both models are made with 1.1 gear ratio and with 2 or 3-way shaft extensions. See your local distributor or write us.

AIRBORNE ACCESSORIES CORPORATION

1414 Chestnut Avenue, Hillside 5, New Jersey

For more details circle **NED-443 L3** on enclosed inquiry slip

MARK-TIME "9000" Wall Time Switch



turns current off or on WHEN YOU'RE NOT THERE!

This Mark-Time switch is a good deal more than a great convenience . . . it saves you money! Because it remembers to turn the current off or on when you're not there to do it!

"9000" automatically controls circuits of store window lights, neon signs, hall and garage lights, attic fans, farm lighting systems . . . dependably turning them on or off at the time you set.

"9000" is easily mounted in any standard rectangular wall box. Movements only available for home or industrial heating controls.

Write today for full details and prices.

SPECIFICATIONS

Time ranges from 3 minutes to 12 hours. Rated at 20 ampere, 125 volt, 1 HP or 10 ampere, 250 volt operation. AC only. Available for either ON or OFF type operation. Hold feature also available—at HOLD position, current is ON, but timing mechanism does not operate until knob is turned from HOLD to a time period.

MARK-TIME

M. H. RHODES, INC.

HARTFORD, CONNECTICUT

Manufactured and sold in Canada by
SPERRY GYROSCOPE OTTAWA, Limited
3 Hamilton St., Ottawa, Ontario, Canada

For more details circle **NED-444 L3** on enclosed inquiry slip

AJUSTRITE®

CHAIRS AND STOOLS

SAVE TIME AND MONEY

3 WAYS

1. Avoids confusion and lost time at start of each period, enables each worker to adjust seat height to fit own requirements.
2. Saves time of supervisors, foremen and maintenance men. Relieved of locating and adjusting seats for each employee.
3. Sturdy construction and special features eliminates maintenance costs—save as much as $3.00 per unit per year.

Sizes and models to meet any requirement. No tools needed—just lift seat to desired height—holds securely where upward lift stops. 2-way backrest adjustment gives support to stop fatigue. Reduces absenteeism.

FREE TRIAL
Try an Ajustrite for 30 days without obligation. The quick, easy, adjustment will surprise you.

AJUSTO EQUIPMENT CO. • 2144 Madison Ave. • Toledo 2, Ohio

Adjusts
15" to 20"
18" to 26"
24" to 35"

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keep costs down

with accurate job time records

CALCULAGRAPH

FIGURES ELAPSED TIME ACCURATELY

- PRINTS DATE
- STARTING TIME
- FINISHING TIME
- TOTAL ELAPSED TIME

Keep production costs in line with automatically computed, precision Calculagraph job time records. Just stamp card at beginning and ending of the operation. Calculagraph prints date, starting and finishing time plus precision calculated elapsed time. One Calculagraph can record and compute job time data for one entire shop or department by handling any number of cards in any sequence. Accurate, printed Calculagraph records can be filed for future use in estimating on new orders and checking production efficiency. Calculagraphs are low in cost, practically maintenance-free and built for a lifetime of dependable service.

COUPON BRINGS FULL INFORMATION — FILL IN AND MAIL TODAY!

CALCULAGRAPH COMPANY
SUSSEX STREET, HARRISON, NEW JERSEY

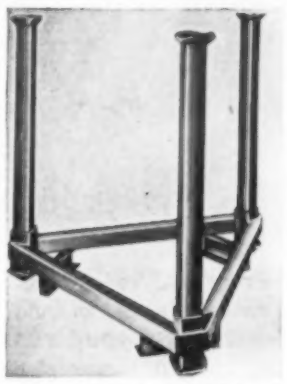
302

Send complete data on Calculagraph to:

NAME _____ TITLE _____
COMPANY _____
STREET _____
CITY _____ STATE _____

▲ For more details circle **NED-446 L3** on enclosed inquiry slip ▲

COIL RACK
triangular for stable stacking



Three-point suspension of this triangular coil rack permits stable stacking and six-way entry by fork lift truck, hand pallet truck or overhead hoist. With wood or steel rectangular or square deck, the rack can be converted into a standard rack for storing small irregular shaped parts, cartons or other shapes. It is equipped with Paltier nesting pyramids for safe stacking. Made by **Paltier Corp.**, 1705 Kentucky St., Michigan City, Ind.

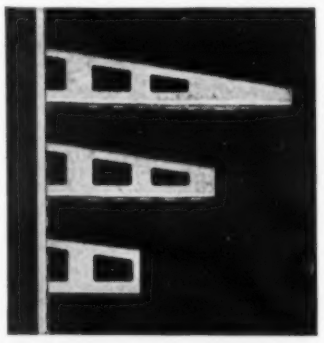
▲ For more details circle **NED-447 L3** on enclosed inquiry slip ▲

DIAPHRAGM OPERATED VALVE
for controlling pipe line flows

Type D-53 diaphragm operated control valve is suitable for applications where it is desirable to control pipe line flows of air, water, various chemicals and gases by independent pressure applied to the diaphragm. It is available in ½ or ¾-in. pipe sizes, for pressures up to 250 psi. Maximum diaphragm pressure is 300 psi. Normally-open or normally-closed types are available. A typical use is for the control of water cooled compressors. Made by **A. W. Cash Valve Mfg. Corp.**, 6624 E. Wabash Ave., Decatur 60, Ill.

▲ For more details circle **NED-448 L3** on enclosed inquiry slip ▲

QUICK-MOUNTING BRACKET
fits into slotted vertical channels



Adjustability and speed of assembly are features of this one-piece Rakit bracket for supporting pipes, cables, conduit and similar lines in power plants, control stations, and industrial and process plants. Available in 3, 7, 13 and 19-in. lengths, supports are placed securely into slotted vertical channel pieces by a twist of the wrist. Extenders are available for greater lengths. Made by **Rakit Corp.**, 4923 Pentridge St., Philadelphia 43, Pa.

▲ For more details circle **NED-449 L3** on enclosed inquiry slip ▲

BIN Stuck Lately?

A CLEVELAND *air* vibrator on your handling devices will get stubborn materials moving like clockwork.

We've solved a wide variety of arching, bridging and plugging problems on a broad industrial front with our complete line of air vibrators.

There's a size and type, either quiet, air-cushioned or standard metallic impact, to fit your particular need. Engineering recommendations will gladly be supplied without charge.

Write for catalog No. 109.

THE CLEVELAND VIBRATOR COMPANY
2744 Clinton Avenue • Cleveland 13, Ohio

▲ For more details circle **NED-450 L3** on enclosed inquiry slip ▲

BELT CONVEYOR LUBRICATION COSTS ELIMINATED!

TRAN-SEAL IDLERS NEVER NEED RE-LUBRICATION

Factory lubricated—need for relubrication "designed out" by means of improved bearing seals and bearing-cavity closures. A heavy-duty, *service-proven* belt conveyor idler which keep lubricant in and dirt out. Maintenance costs reduced. For details, write TRANSALL, INC., 120 N. 11th St., Birmingham 4, Alabama.

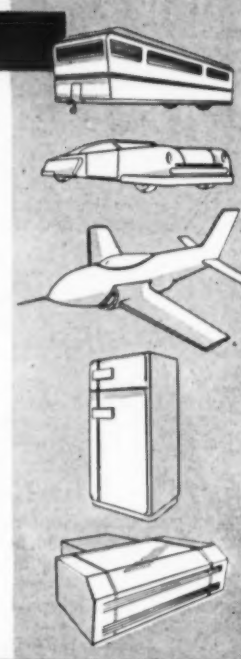
Each bearing assembly is protected by four bearing seals.

(120-B)

TRANSALL SECTIONAL BELT CONVEYOR SYSTEMS

▲ For more details circle **NED-451 L3** on enclosed inquiry slip ▲

Your 1955 Models Require New Sealing Compounds Today



As often as product designs change, new sealing problems arise. Staple sealants are not always the most effective answer.

Presstite's Research and Development Laboratories, specializing exclusively in sealing compounds, thrive on the challenge to formulate new sealants for new products, new models, new requirements of *any* industry.

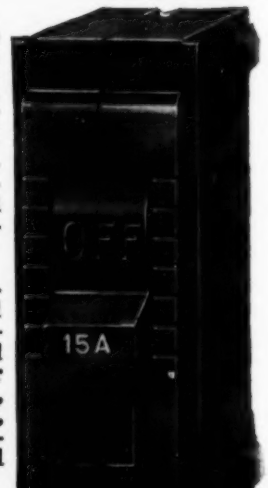
Protect the quality and performance you so carefully plan. Consult our experienced sales engineers who will gladly recommend or have our laboratories formulate the very best sealant for your needs.

PRESSTITE SEALING COMPOUNDS

PRESSTITE ENGINEERING COMPANY
3742 Chouteau Ave. St. Louis 10, Mo.

▲ For more details circle **NED-452 L3** on enclosed inquiry slip ▲

A Complete Line of Low Voltage CIRCUIT BREAKERS



Type TQL Actual Size

Available in ratings from 10 to 600 amperes and voltages up to 600 volt AC, 250 volt DC, either open type or with surface or flush-mounted enclosures, of semi-dust-tight, water- and dust-tight design. Accessories available for conversion to non-automatic, remote tripping, bell alarm and other special requirements.

Superior design and construction features enabled Trumbull Electric to develop U. S. Navy-approved breakers for shipboard service. Take advantage of their superior protection, convenience, permanence in your load center, panelboard, switchboard, industrial, commercial or residential applications.

Available through leading Distributors everywhere. Write direct for literature and technical information.

GENERAL ELECTRIC

TRUMBULL COMPONENTS DEPARTMENT
PLAINVILLE, CONN.

▲ For more details circle **NED-453 L3** on enclosed inquiry slip ▲

Generalift PALLET BOXES

1. CUT MATERIALS HANDLING COSTS
2. REDUCE STORAGE COSTS

SEND FOR FREE BOOKLET

General Box COMPANY
1859 Miner Street
Des Plaines, Illinois

Factories: Cincinnati; Denville, N. J.; Detroit, East St. Louis, Kansas City, Louisville, Milwaukee; Prescott, Ark.; Sheboygan; Winchendon Mass.; General Box Company of Mississippi, Meridian, Miss.; Continental Box Company, Inc., Houston.

For more details circle NED-454 L3 on enclosed inquiry slip

Untrained girls produce 'Class 3' threads on any drill press with "Auto-tap"

TRADE MARK

LEAD SCREW TAPPING ATTACHMENT

- ★ Every thread starts at same point.
- ★ Quality is maintained automatically.
- ★ Less expensive fixtures needed.
- ★ Less tap breakage.
- ★ Quickly repays its low cost.
- ★ Taps metals and plastics—from #0 to 5/8".

Models for various column and gib type drill presses.

Send for Bulletin

Automatic Methods INC.
PRECISION PARTS FOR AIRCRAFT
953A West Grand St.
Elizabeth, N. J.

For more details circle NED-455 L3 on enclosed inquiry slip

NEW Magnetic SUPER-SWEEPER

Removes Chips, Bolts, Nails From Factory Aisles, Drives, etc.

Eriez new Super-Sweeper is the most powerful, economical permanent non-electric magnetic sweeper ever designed to pick up and hold dangerous shavings, chips, nuts, bolts and other tramp iron from factory aisles, parking lots, shipping areas, etc. Super-Sweeper helps to keep floors clean and safe . . . reduces accidents . . . prevents tire blowouts!

PULL IT . . . Super-Sweeper's double steel tube handle with looped end easily hitches to any vehicle. *PUSH IT* . . . Super-Sweeper is powerful . . . light weight . . . easily maneuvered around machines, aisles, etc. *SUSPEND IT* . . . Super-Sweeper is adapted for industrial and fork lift trucks . . just remove wheels and handle, attach with built-in eyebolts.

Low cost Eriez Super-Sweeper is quickly cleaned by stripping the tramp iron accumulation from the sturdy canvas cover stretched over magnetic face.

Four sizes (from 35½" to 71½" wide) in three magnetic strengths for medium, heavy and extra heavy-duty tramp iron removal are available for manual or mechanical operation . . . at amazingly low cost.

Write TODAY for *new* brochure on Eriez permanent Super-Sweeper. It fully describes this new low cost sweeper . . . includes specs and prices.

ERIEZ MANUFACTURING CO.
40 MAGNET DRIVE, ERIE, PENNSYLVANIA

For more details circle NED-456 L3 on enclosed inquiry slip

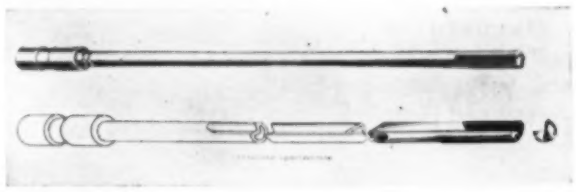
HOSE CLAMPS
spring steel, are easily applied

Fabricated in one piece from nonfatiguing spring steel, Hoz-Fas-Ners clamp hose with an automatic and constant tightening action. Seal between hose and connection is maintained despite such factors as hose ageing, shrinkage or expansion. Clamps are easy to apply and do not require manual adjustment or retightening. They can be reused. Rounded surface prevents cutting of hose and finish is rust-resistant. Made by **Eaton Mfg. Co.,** Reliance Div., Charles St., Massillon, O.

For more details circle NED-457 L3 on enclosed inquiry slip

CARBIDE TIPPED GUN DRILL
drills deep holes accurately

Recommended for deep hole drilling operations, carbide tipped gun drills operate with piece-part rotating and drill stationary, and utilize high oil pressure. Runout is minimized. Finish and hole size are in many cases comparable to those obtained by reaming. Holes can be drilled in practically every material used in industry. Made by **United Drill & Tool Corp.,** Chicago-Latrobe Div., 413 W. Ontario St., Chicago 10, Ill.



For more details circle NED-458 L3 on enclosed inquiry slip

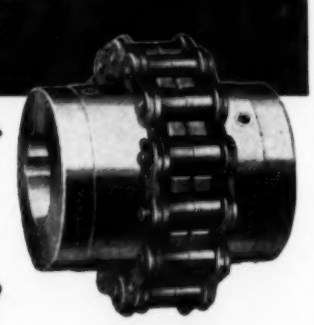
WELDING HELMET
fiber glass, has high strength

Fabricated from grainless fiber glass and possessing uniform strength, this welding helmet will withstand up to five times the impact force of ordinary units. Material does not warp, and shows less than ½-oz of water absorption when placed in a 160° F salt solution for 48 hours. Helmet is lightweight, and has a black crackle finish. Choice of front loading or "lift front" plate holder is available, as is choice of standard or "one hand" fitting headgear. Made by **Sellstrom Mfg. Co.,** 654 N. Aberdeen St., Chicago 22, Ill.

For more details circle NED-459 L3 on enclosed inquiry slip

Only LINK-BELT "RC" Flexible Couplings give all 3 advantages at low cost

1. Equalized load
2. Proper balance at high speeds
3. Effective compensation for end float and misalignment



Link-Belt's exclusive design makes the difference. The simplicity of single-width chain is combined with divided rollers to give you top performance—plus economy. Specify Link-Belt Roller Chain Couplings for any rating from fractional to 1000 hp. Get all the facts from your Link-Belt representative or distributor, or write for Folder 2363. 13.210

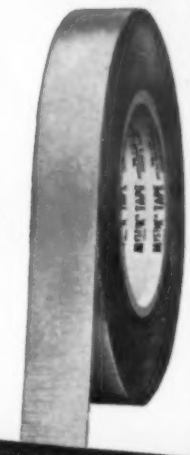
LINK-BELT
"RC" Flexible Couplings

LINK-BELT COMPANY: Plants: Chicago, Indianapolis, Philadelphia, Colmar, Pa., Atlanta, Houston, Minneapolis, San Francisco, Los Angeles, Seattle, Toronto, Springs (S. Africa), Sydney (Australia). Sales Offices, Factory Branch Stores, Distributors in Principal Cities.

For more details circle NED-460 L3 on enclosed inquiry slip

MYSTIK BRAND · SELF-STIK

NEW Thinflex® 6207 MASKING TAPE



FASTEST and best masking tape made!

Extra thin . . . for cleaner, sharper-line masking. Greater *flexibility* . . . for masking curves faster. Extra *strength* . . . to hold positively yet strip off fast in one piece. Resists stains, oils, solvents—leaves no residue. Gives on-the-job speed and results for a faster, better job . . . *at lower cost*. Write for information and free samples. Mystik Adhesive Products, 2657 North Kildare Avenue, Chicago 39.

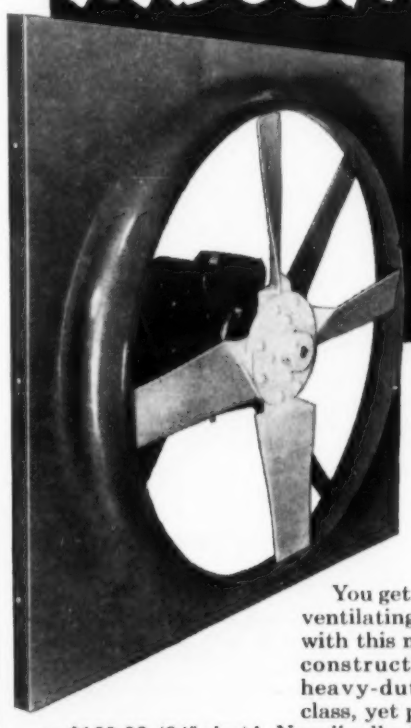
© MAP 1953 T. M. MYSTIK and THINFLEX Registered

For more details circle NED-461 L3 on enclosed inquiry slip

Cuts the cost of heavy-duty ventilation!

NEW R&M

Direct-Drive INDUSTRIAL FAN



5 Sizes 24" to 48"

5400 to 36000 CFM

You get extra cooling and ventilating power per dollar with this new fan! Its rigid construction puts it in a heavy-duty propeller-fan class, yet prices start as low as $160.00 (24" size)! New "gull-wing" blades, combined with an improved air inlet, set new highs in efficiency. Installation is easy, maintenance costs low. Whatever your ventilation problem—industrial, commercial or military—it will pay you to circle the enclosed inquiry slip now!

- Direct Drive reduces maintenance costs
- "Gull-Wing" airfoil blades for uniform pressure and added strength
- Square steel frame forms easy-mounting panel
- Aluminum alloy blades—non-rusting, non-crystallizing, non-overloading
- Heavy-continuous-duty motor. Ball bearings permanently lubricated and sealed (information on explosion-proof motors available on request)
- Automatic shutters to fit all fan sizes
- Streamlined air inlet for greater efficiency

SEND THE INQUIRY SLIP TODAY!

ROBBINS & MYERS FANS for 1953

Robbins & Myers, Inc., Fan Division
387 So. Front St., Memphis 2, Tenn. ND-113

For more details circle NED-462 L3 on enclosed inquiry slip

Completely welded, machined, heat-treated and tested —this Hackney Deep Drawn Part is ready for the manufacturer's final assembly line.

Figure the economy of *ready-to-use* Hackney component parts for your products. And remember that strong, lightweight Hackney Deep Drawn Shapes, Shells and Pressure Reservoirs can be designed in many shapes and sizes—in capacities from 1 quart to 150 gallons. For further information, write today.

Hackney **PRESSED STEEL TANK COMPANY**
Manufacturer of Hackney Products

1450 S. 66th St., Milwaukee 14 • 1324 Vanderbilt Concourse Bldg., New York 17 • 255 Hanna Bldg., Cleveland 15 • 936 W. Peachtree St., N.W., Room 136, Atlanta 3 • 208 S. LaSalle St., Room 779, Chicago 4 • 578 Roosevelt Bldg., Los Angeles 17 • 18 W. 43rd St., Room 30, Kansas City 11, Mo.

CONTAINERS FOR GASES, LIQUIDS AND SOLIDS

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FREE
10 DAY TRIAL
OFFER

MODEL 52

streamline your packaging operations with a

NATIONAL TAY-PER®

- **SAVE TIME** — simplified operation speeds packaging
- **SAVE LABOR** — automatic moistening control* reduces rub down time
- **SAVE MONEY** — automatic dispenser delivers any predetermined lengths, eliminates waste
- **AVOID DAMAGE CLAIMS** — positive moistening control "welds" tape to cartons for double protection

*endorsed by the Association of American Railroads and the Gummed Industries Association, Inc.

NASHUA

NASHUA PACKAGE SEALING
DIVISION OF NASHUA CORPORATION
Nashua, N.H.

Please send me a National Tay-Per for a 10 day FREE trial.

Name_____
Company_____
Address_____
Dept. 24

Stop pilferage with Velix® Printed Tape the INFORMER TAPE!

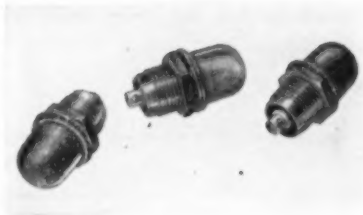
▲ For more details circle NED-464 L3 on enclosed inquiry slip ▲

DUAL HEAD PAINT ROLLER
in 8, 11 and 14-in. widths

Balanced center handle attachment instead of single or double side handle attachment is featured advantage of this two-headed Bestt Duo-Mechanic paint roller. The two roller heads with four steel bearings allow differential action to prevent roller skidding, while "T" construction permits rolling next to woodwork with either side. Standard widths are 8, 11 and 14 in. Styles with either slip-on covers or hardwood cores are offered. Made by **Fond Du Lac Roller Corp.**, Waddington Blvd., Fond du Lac, Wis.

▲ For more details circle NED-465 L3 on enclosed inquiry slip ▲

PILOT LIGHT
subminiature size for panels



Features of L6000 indicator or warning light for use on standard or edge-lit panels include wide angle visibility and large area contact between base and lamp. Only ½-in. depth behind panel is required, exclusive of contact. Standard AN-3140 lamp which extends into the long plastic lens (27/64-in.) is used. Amber, blue, green, red or white lens are available. Made by **Hetherington, Inc.**, Dept. D, Sharon Hill, Pa.

▲ For more details circle NED-466 L3 on enclosed inquiry slip ▲

CRATE LIFTER
attaches to truck carriage

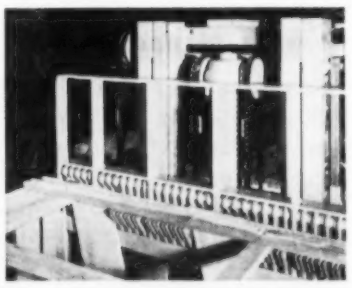
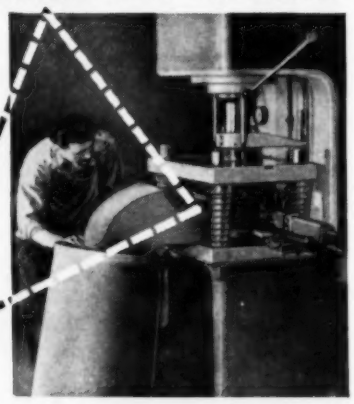


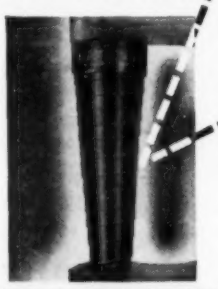
Illustration shows close-up of how the saw-toothed fingers of this open crate handling attachment pass through crate opening to grip and lift automatically wherever slats do not interfere. The device attaches to the lift truck carriage, and permits handling of most open crates without pallets, skids, or forks. Slight backward motion of the fingers as they lift places crate firmly against the backrest for solid support. Maximum truck lifting height is retained, and contact stacking is possible. Made by **Yale & Towne Mfg. Co.**, Yale Materials Handling Div., Dept. M-1, Roosevelt Blvd. & Haldeman Ave., Philadelphia 15, Pa.

▲ For more details circle NED-467 L3 on enclosed inquiry slip ▲

DIE LIFE INCREASED 25%
with
ELASTICONE GUIDE PIN COVERS

Get increased performance from Dies with Elasticone Guide Pin Covers. Protects pins and bushings from nicks and scratches . . . preserves Dies' accurate alignment . . . reduces lubrication and maintenance. JUST SNAP INTO PLACE! *No Installation Costs!*





Investigate today the many new cost-saving engineering advantages in die designing with Elasticones.

Elasticones are manufactured in stock sizes. Specify O.D. of bushing and full open height of set when ordering.

Write for full information and literature.

CENTRAL

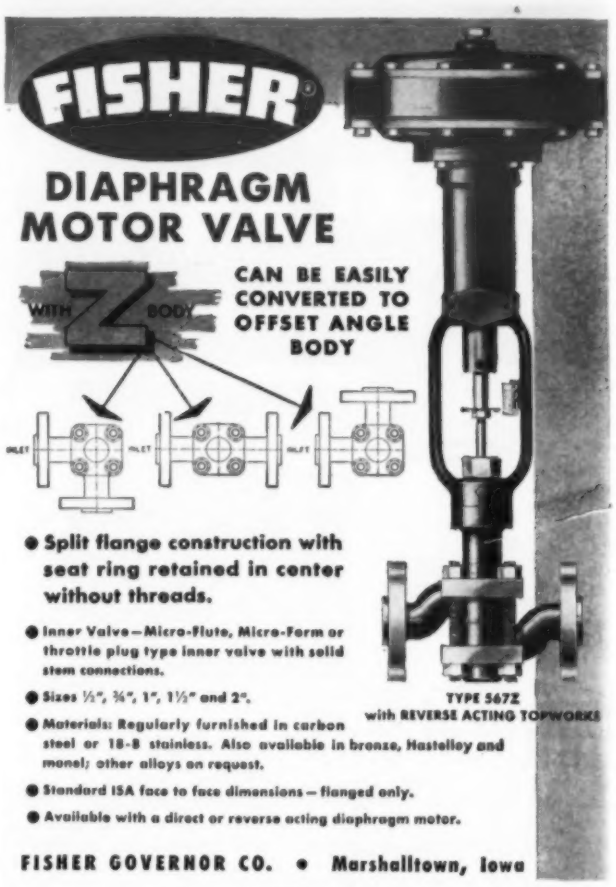
2208 EAST HUNTINGDON ST. PHILA. 25, PA.

CENTRAL SAFETY EQUIPMENT COMPANY

▲ For more details circle NED-468 L3 on enclosed inquiry slip ▲

FISHER®

DIAPHRAGM MOTOR VALVE



- **Split flange construction with seat ring retained in center without threads.**
- Inner Valve—Micro-Flute, Micro-Form or throttle plug type inner valve with solid stem connections.
- Sizes ½", ¾", 1", 1½" and 2".
- Materials: Regularly furnished in carbon steel or 18-8 stainless. Also available in bronze, Hastelloy and monel; other alloys on request.
- Standard ISA face to face dimensions—flanged only.
- Available with a direct or reverse acting diaphragm motor.

FISHER GOVERNOR CO. • Marshalltown, Iowa

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If your record of safety is slipping...

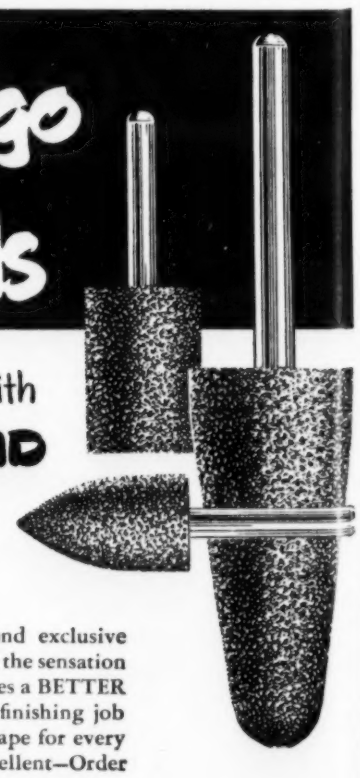
. . . you can get back on a firm footing with WHIZ Check-Slip. Check-Slip is the self-polishing floor coating that contains no wax, yet gives all the lustre, long wear and low-cost maintenance features you want in a first-class floor finish. And the beauty of it is — no slipping. All kinds of companies know Check-Slip stands up on all kinds of floors—not tacky, dirt-catching or discoloring. Non-inflammable, too.

For details, write Hollingshead today!

INDUSTRIAL SECTION
R. M. Hollingshead CORPORATION
LEADER IN MAINTENANCE CHEMICALS
840 Cooper St., Camden 2, N. J.

▲ For more details circle NED-470 L3 on enclosed inquiry slip ▲

Chicago MOUNTED Wheels



...now even better with **79E BOND**

Buy Chicago Mounted Wheels—bonded with 79E Bond—and you'll never use any other!

79E—a tough new bond exclusive with Chicago Wheel—is the sensation of the industry . . . it does a BETTER grinding, burring, and finishing job FASTER. A size and shape for every use. Deliveries are excellent—Order today.

CHICAGO WHEEL & Mfg. Co.
Dept. NED • 1101 West Monroe Street, Chicago 7

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NEW T-J

Spacemaker AIR CYLINDERS

Saves up to 40% Space!

Streamlined construction of the new T-J Cylinders *eliminates tie rods . . . reduces head size . . .* and *saves up to 40% in mounting space!* In addition, a new high in strength is achieved with solid steel heads and heavy wall seamless steel body . . . leakproof construction . . . extra high safety factor. Cylinder walls are precision honed and hard chrome plated for long-life efficiency. Available with new T-J Super Cushion Flexible Seals. Many standard sizes and styles . . . cushioned and non-cushioned . . . for pushing, pulling, lifting, clamping or control jobs. Write for bulletin 8152. The Tomkins-Johnson Co., Jackson, Michigan.

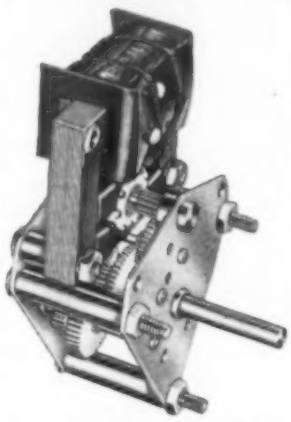
4 Weeks Delivery on the Spacemaker — any style any stroke, 1" to 3" diam.

37 YEARS EXPERIENCE T-J
TOMKINS-JOHNSON
RIVETORS · AIR AND HYDRAULIC CYLINDERS · CUTTERS · CLINCHERS

▲ For more details circle **NED-472 L3** on enclosed inquiry slip ▲

SKELETON TYPE MOTOR
fractional-horsepower, low speed

Skeleton type fractional-horsepower shaded-pole motor is geared to furnish standard speeds of 2, 7½ or 27 rpm. Special speeds are available. At 2 rpm the rated torque is 7 lb-in. and stall torque is 10.5 lb-in. Rotation can be in either direction or reversible, and the shaft can be extended from either or both sides. Where reversing action is required, a built-in low voltage control circuit is provided. No transformer is required. Control circuit can be either two or three-wire. Additional features are self-lubricating powder metal bearings, hardened steel pinions and hobbed gears. Dimensions are 4 15/16 x 1 27/32 x 1 25/32 in. Made by **Aero Mfg. Co.,** Crise Controls Div., 2042 E. Main St., Columbus 16, O.



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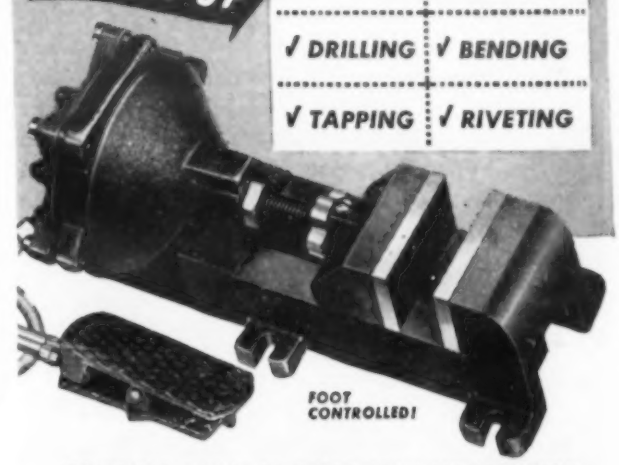
SPEEDY AIR VISE

SPEEDS UP
✓ MILLING ✓ PUNCHING
✓ DRILLING ✓ BENDING
✓ TAPPING ✓ RIVETING



GRIPPING FORCE 15 TIMES AIR LINE PRESSURE

Speedy Air Vise helps you do dozens of operations faster, better, cheaper—by air pressure! Foot control valve opens and shuts vise instantly, leaving *both* hands free to produce *more!* Jaw opens up to 3 inches, holds castings, parts, jigs, etc. Compact and trouble-free.

Complete with Foot Control, Air Hose and *Fittings*.....only **$36.00**

Prompt Delivery from Your Supplier or Write Direct

W. R. BROWN CORPORATION • 2647 N. Normandy Ave. • Chicago 35, Ill.

AIR REGULATORS • AIR FILTERS • AIR GUNS • PORTABLE COMPRESSORS

▲ For more details circle **NED-478 L3** on enclosed inquiry slip ▲

MECHANICAL COMPARATOR
lightweight unit is designed for assembly line checking operations

A lightweight mechanical comparator, Producto-Chek is designed for assembly line and other high production checking operations. One coarse and two fine adjustments are provided. A column lead screw rough positions the gaging head, a thumb screw moves the gaging head slightly up or down, and a lever adjustment moves the dial scale from left to right for zeroing movements or for compensating for known errors in masters. Gaging head has a "double reed" system eliminating the possibility of mechanical backlash and error and which is self-compensating for temperature variations.

Measuring pressure is factory set, which permits operator to use both hands, and the column of the instrument can be rotated on the base to allow use with a surface plate or a master flat lying adjacent. Several ranges in both English and Metric calibrations are available, and gaging heads are interchangeable on the stand. Special spindle tips and a complete accessory kit are also available for increasing instrument's versatility. Made by **DoALL Co.,** 256 N. Laurel Ave., Des Plaines, Ill.

▲ For more details circle **NED-476 L3** on enclosed inquiry slip ▲

It's practically
WATER-WHITE
a NEW
chemically resistant
baking finish—
DURACHEM

For all types of metal products from heavy hardware to fine jewelry

A new baking type synthetic finish—DURACHEM—combines unusual clarity with a high degree of chemical resistance. Almost water-white—remains clear after exposure to heat and sunlight—resists salt spray and perspiration. Available in colors too.

Samples and technical literature on request

OUR 78th YEAR PIONEERS M&WCo 1876 IN PROTECTION

MAAS & WALDSTEIN CO. 2116 McCARTER HIGHWAY NEWARK 4, NEW JERSEY
Midwest Div.: 1658 Carroll Ave., Chicago 12, Ill.
Pacific Coast Div.: Smith-Davis Co., 10751 Venice Blvd., Los Angeles 34, Calif.
MANUFACTURERS OF INDUSTRIAL FINISHES

▲ For more details circle **NED-473 L3** on enclosed inquiry slip ▲

for faster production . . . wider heat range

BLUE M INDUSTRIAL BATCH OVENS

DESIGNED FOR HARD CONTINUOUS USE. Blue M's heavy double wall construction means low maintenance and initial cost. The temperature range is the widest available in this type of oven, eliminating the need for extra equipment in the higher ranges. Made of heavy steel throughout. Insulated with 4" of Fiberglas. Ideal for tasks such as coil and armature baking . . . aging . . . curing . . . drying . . . preheating . . . synthetic finish baking . . . preheating plastics . . . curing of coated plating racks . . . core baking . . . tempering . . . silicone baking.

TEMPERATURE MAINTAINED AUTOMATICALLY. The U. L. approved hydraulic thermostat has instantaneous response. It maintains and indicates temperatures over the full 100°F to 600°F range.

DIAGONAL FORCED AIR FLOW. Heated air is circulated from both sides, vertically and horizontally. Air intake and exhaust is positive.

POWER SELECTOR SWITCH SAVES WATTAGE. Automatically regulates wattage at ¼, ½ or full power according to temperature required. Built in motor overload protection and safety door switch. All wiring complete . . . meets N. E. C. specifications.

MODEL NO.	WORKING CHAMBER (Inches) WIDTH	HEIGHT	DEPTH	ELECTRICAL K.W. (Max.)	CHARACTERISTICS VOLTAGE 60 CYCLE A.C.	COMPLETE PRICE
16P	24	48	24	10	230V/1 or 3 ph.	$775.00
24P	36	48	24	14	230V/1 or 3 ph.	975.00
32P	48	48	24	18	230V/1 or 3 ph.	1225.00

Also available for 440V/1 or 3 phase for all sizes.

See your local dealer or write for Bulletin

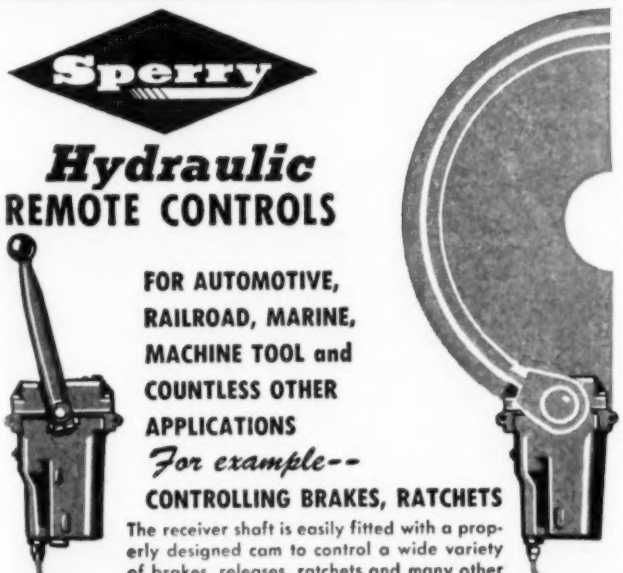
BLUE M LINE

BLUE M ELECTRIC COMPANY
306-308 West 69th Street, Chicago, Illinois

▲ For more details circle **NED-479 L3** on enclosed inquiry slip ▲

Sperry

Hydraulic REMOTE CONTROLS



FOR AUTOMOTIVE, RAILROAD, MARINE, MACHINE TOOL and COUNTLESS OTHER APPLICATIONS

For example--

CONTROLLING BRAKES, RATCHETS

The receiver shaft is easily fitted with a properly designed cam to control a wide variety of brakes, releases, ratchets and many other similar devices.

• INSTANT RESPONSE • SINGLE TUBE—EASY INSTALLATION • POSITIVE, ACCURATE DUPLICATION of MOVEMENT • COMPLETELY SELF-CONTAINED, INDEPENDENT • RUGGED and DEPENDABLE

WRITE NOW FOR COMPLETE INFORMATION or send prints and specs for special applications.

SPERRY PRODUCTS, INC.
1111 SHELTER ROCK ROAD,
Danbury, Connecticut
REPRESENTATIVES IN PRINCIPAL CITIES

▲ For more details circle **NED-474 L3** on enclosed inquiry slip ▲

SPARE THE MUSCLES!
LET "George"* HAUL TOTE BOXES

This cleverly designed, easy-rolling hand truck supplies the leverage that "goes to bat" for employee muscles. Attached rigid handle hook is engaged with tote box handle. With little effort and by natural leverage, the box glides over bevel edge of truck onto rollers when truck handle is pulled forward. Load is safely held on upper rollers while truck is rolled to destination on lower set of traction rollers.

No dangerous lifting of metal-laden boxes . . . long life . . . low cost. Most plants can use several . . . one company bought 150 units. Get yours!

*TRADEMARK

LET "George" DO IT
4RG53

Send for Bulletin N
ROLOCK Inc. • Fairfield, Conn.

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SELLERS
HYDRAULIC JET CLEANER

LEAST EXPENSIVE TO BUY & OPERATE

MOST EFFECTIVE FOR HEAVY DUTY CLEAN-UP

Operated by ordinary plant steam and cold water lines, this unit propels a solid jet of extremely high pressured hot water and detergent. The discharge force completely cleans areas up to 30 ft. from operation point, reaching inaccessible machinery parts. Eliminates down time and scaffolding. Removes all soil, sludge, and encrusted deposits.

CUTS CLEANING COSTS UP TO 94%

FOR ANY PLANT WITH 5 PSI STEAM & UPWARD

Write for literature and the name of our local distributor

SINCE 1848

SELLERS Injector CORPORATION
1600 Hamilton Street Philadelphia 30, Pa.

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There's many a slip... but it only takes one to cost money!

PABCO GRIP-TREAD
MASTIPAVE
FLOOR COVERING

Saves Money... Four Ways!
NON-SLIP, SUPER-TOUGH
RESILIENT, LOW-COST

These four money-saving ways are why factories, schools, office buildings, hospitals, and Governmental institutions and others specify Pabco Grip-Tread MASTIPAVE...

1 *Non-Slip* Grip-Tread Mastipave prevents accidents. It's the safe floor with built-in brakes.

2 *Non-Slip* Grip-Tread Mastipave is super-tough ... resists wear day-in and day-out. Replacement costs are at a minimum.

3 *Non-Slip* Grip-Tread Mastipave is resilient, reduces foot fatigue, increases job efficiency.

4 *Non-Slip* Grip-Tread Mastipave is low cost. Low-cost installation, low-cost maintenance, long wearing qualities. You can't lose—investigate today. Clip the coupon below and learn how you can show a real money value to your company.

FILL OUT THIS COUPON

PABCO PRODUCTS INC.
New York 16 • Chicago 54 • San Francisco 19
(Mail to Dept. B nearest office)

GENTLEMEN: Without cost or obligation to me, please send your folder, "Every Building needs Pabco MASTIPAVE."

NAME _____

ADDRESS _____

CITY _____ STATE _____

▲ For more details circle NED-482 L3 on enclosed inquiry slip ▲

TEMPORARY CONNECTORS
for electronic test equipment

Locking-type tip jacks and solderless phone tips which fit them are intended primarily for electronic test equipment, but are also useful in other applications requiring jerk-proof but temporary connections. Bakelite end cap and a one-piece phosphor-bronze contact spring accommodate standard phone tips as well as the Insuline locking tips. Both jacks and tips are made with red and black insulation for circuit identification. Made by **Insuline Corp. of America**, Dept. NE, 3602 35th Ave., Long Island City 1, N. Y.

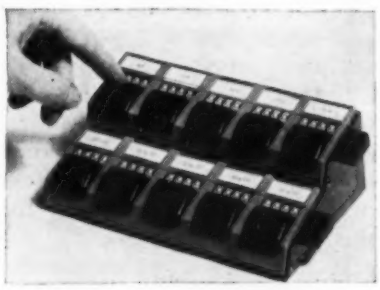
▲ For more details circle NED-483 L3 on enclosed inquiry slip ▲

HAND PUMP
handles air and most liquids

Suitable for blowing or sucking sludge from oil lines, or for priming and testing pipelines, this hand pump handles air and most liquids. Construction features include solid brass piston with Neoprene ring and 8-in. heavy gage brass barrel. Oil-Chek valves are available if desired for both suction and pressure sides. Made by **Hold-Tite Valve Mfg. Co.**, Dept. HP-53, 550 Fifth Ave., New York 36, N. Y.

▲ For more details circle NED-484 L3 on enclosed inquiry slip ▲

TALLY TYPE COUNTER
is multiple-unit multipurpose type



Order, quality, stock and traffic control; sales and laboratory analysis; and payroll preparation are some of the uses for which the Vary-Tally multiple unit reset counter is suitable. As many as 72 individual units can be tiered together into one counter. Fingertip pressure on front lever registers each count from 1 to 9999, and a reset knob returns all counters in any tier to zero with one turn. Immediately over the reading line are panel legend inserts such as colors, sizes, denominations or names. Corrosion-resistant finish and materials are used. Made by **Veeder-Root Inc.**, 19-P Sargeant St., Hartford 2, Conn.

▲ For more details circle NED-485 L3 on enclosed inquiry slip ▲

UNBRAKO® precision ground
alloy steel DOWEL PINS

2 STANDARDS MEET MOST REQUIREMENTS

UNBRAKO Dowel Pins are regularly furnished in two *standard* types: blue label pins, +.0002" oversize for nominal press fit requirements; red label pins, +.001" oversize for use as repair pins. They feature formed ends which won't chip, a 6 microinch surface finish, and a diameter tolerance of ±0.0001". Stocked and sold by leading industrial distributors everywhere. Write for literature. SPS, Jenkintown 24, Pa.

Our Fiftieth Year: A START FOR THE FUTURE

UNBRAKO SOCKET SCREW DIVISION

SPS JENKINTOWN PENNSYLVANIA

▲ For more details circle NED-486 L3 on enclosed inquiry slip ▲

$325.00 *F.O.B. Springfield, Ohio*

Buys a POWER Floor Sweeper

Now the benefits of Parker *power* sweeping can be yours at the lowest price in the floor sweeping industry. Famous Parker "tough use" construction. Sweeps all kinds of floors . . . easily emptied . . . easily maneuvered in small spaces . . . pays for itself in a remarkably short time. Get our latest complete-line bulletin . . . get a Parker floor sweeper and prove its great man-saving, cost-saving operation on your own floors. Write PARKER SWEEPER CO. 611 BECHTLE AVE., SPRINGFIELD, OHIO.

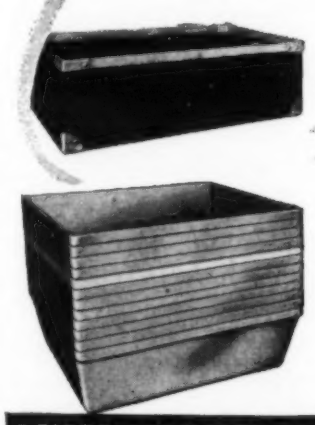
PARKER FLOOR SWEEPERS

Manual and Motorized Models

▲ For more details circle NED-487 L3 on enclosed inquiry slip ▲

more efficient production . . . greater profit with

Kennett Materials Handling Equipment

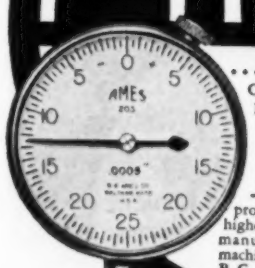


Trays made from hard Vulcanized Fibre, any size or shape. Stack or nest. Also, "Fiberglas" reinforced plastic trays which are light, strong, inexpensive. Eliminate needless labor costs, increase profits with efficient Kennett Materials Handling Equipment. Trays, trucks, tote boxes in standard sizes or designed to fit your needs. Write for complete details.

FIBRE SPECIALTY MANUFACTURING CO.
(Div. National Vulcanized Fibre Co.)
P.O. Box 311 Wilmington, Delaware

▲ For more details circle NED-488 L3 on enclosed inquiry slip ▲

AMES



...the preferred Dial Indicators

One of America's largest and most famous mass-producers recently chose Ames as preferred source of supply for indicator gauges. They did because the four sizes of Ames "Hundred Series" indicators fit every measuring requirement; they are *accurate, sensitive,* low in friction, yet are *rugged* and *tough* —give *more* on-the-job time. All Ames products embody latest design and highest-quality materials; they are manufactured by methods and machines that are *exclusive* with B. C. Ames Co.

Send today for your free copy of Catalog No. 58

Representatives in principal cities. B. C. AMES CO. *34 Ames Street Waltham 54, Mass.*
Mfgr. of Micrometer Dial Gauges • Micrometer Dial Indicators

▲ For more details circle NED-489 L3 on enclosed inquiry slip ▲

Best Buy in Hoists!

...and here's why!

1 Low operating cost.
2 Safe! The *only* hoist with self-locking, double worm gear which acts as its own load brake.

WHITING ELECTRIC CHAIN HOISTS

3 Steel from hook to hook—heavy, positive acting limit switches.
4 Dual voltage motors quickly convert from 220 to 440 volts or vice-versa.
5 Just hang it up, plug in, pull cord (one-hand control) and it goes to work.
6 Assured performance, backed by the exclusive Whiting Warranty Plan.
7 Most standard models shipped from stock.

Send for Illustrated Bulletin H-112

WHITING CORPORATION
15660 Lathrop Ave., Harvey, Ill.

▲ For more details circle **NED-490 L3** on enclosed inquiry slip ▲

KNEE SAFETY!

..IN YOUR PLANT

JUDSEN KNEE PADS

for every down-on-the-knees job!

Alert Safety Directors and Plant Executives throughout the country have been quick to recognize the benefits offered by JUDSEN "*Cushion Soft*" KNEE PADS:

- Increased Work Efficiency!
- Less Fatigue! Less Time-Out!
- Protection Against Injuries!

Neat, durable, compact JUDSEN KNEE PADS are as easy to wear as gloves . . . *kneeling* . . . *standing* . . . *walking*. Find out about this AID TO PRODUCTION EFFICIENCY today. ASK YOUR SUPPLIER OR WRITE.

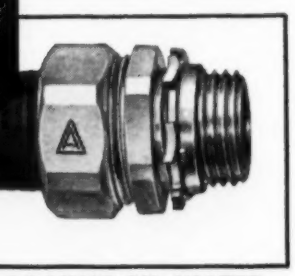
JUDSEN RUBBER WORKS, INC.
4107 WEST KINZIE STREET, CHICAGO 24
Manufacturers MOLDED • EXTRUDED • SPONGE *Since 1901*

▲ For more details circle **NED-491 L3** on enclosed inquiry slip ▲

APPLETON "ST" Series CONNECTORS*

*for Liquid Tight Flexible Conduit ("Sealtite" or Equivalent Products)

The ONLY Fittings of Their Kind!



Quick, Easy to Install!

SEAL WIRING SYSTEMS AGAINST OIL, WATER, DIRT, GREASE, ACIDS and CHEMICALS

• Here are flexible conduit connectors with a big plus! Appleton "ST" Series Connectors not only stay tight, but assure positive exclusion of liquids, fumes, chips, shavings and other foreign matter from machinery electrical systems. As a result, costly shutdowns and loss of man hours are eliminated!

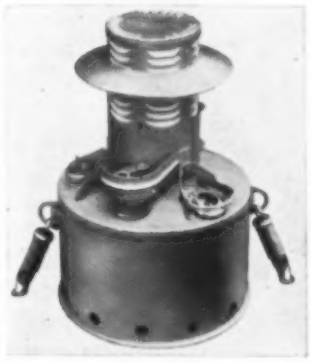
Appleton "ST" Series Connectors come in straight, 45° and 90° to fit flexible conduit sizes from ⅜" to 1¼". Also, 1½" and 2" straight. They provide a positive ground between conduit and connectors and maintain voltage within 10 millivolts drop.

For complete information, contact your wholesaler or write, today!

APPLETON ELECTRIC COMPANY
1758 Wellington Avenue • Chicago 13, Illinois
Also Manufacturers of

▲ For more details circle **NED-492 L3** on enclosed inquiry slip ▲

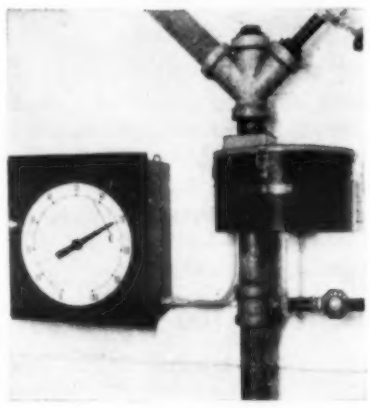
CARGO HEATER
methyl alcohol unit is ICC approved



Conforming to latest ICC regulations for cargo heaters for trailers and trucks, this automatic methyl alcohol heater unit produces up to 6000 Btu per hour and burns for 50 hours on full flame. Temperature is thermostat controlled, and can be instantly set between 30 and 60° F regardless of altitude or atmospheric pressure. Unit is exposion-proof and weather-proof, has safety valves to prevent fuel leakage if tipped, and is equipped with an automatic CO_2 system which operates if unit is overturned. A dial type readable fuel gage is used, and spring hooks fasten heater in desired location. Height is 24 in., diameter 15½ in., and empty weight 38½ lb. Made by **Preco Inc.**, 6300 E. Slauson Ave., Los Angeles 22, Calif.

▲ For more details circle **NED-493 L3** on enclosed inquiry slip ▲

RECORDING TURBIDIMETER
measures and records number of particles suspended in liquids



Continuous measurement and permanent recording of number of particles suspended in liquids is function of this turbidimeter. Typical applications include monitoring of process water supplies or detection of oil contamination in boiler feed water. Operation is on principle that light transmitted through liquid is scattered in proportion to amount of particles suspended in it. Turbidity increases as ratio of scattered light to transmitted light increases.

Detecting element is single photovoltaic cell with current output proportional to amount of light falling upon it. Standard circular chart recorder remotely located from sampling head contains memory cirsuit and measures the light ratio. This ratio is indicated by recorder meter and permanently marked on chart.

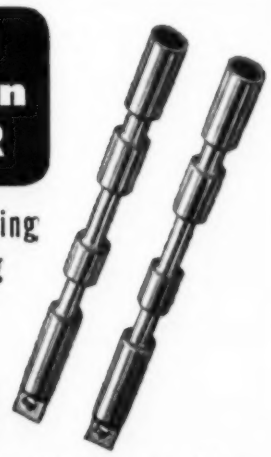
With maximum 100 psi pressure inside sampling head, instrument is accurate plus-minus 5 per cent of full scale and a precision plus-minus 3 per cent of full scale. Range is adjustable in the field from 0-25 to 0-10,000 ppm (silica scale). Made by **General Electric Co.**, Schenectady 5, N. Y.

▲ For more details circle **NED-494 L3** on enclosed inquiry slip ▲

ALLIS-CHALMERS Induction HEATER

When Induction Hardening Replaced Carburizing

REJECTS ELIMINATED



A LEADING AIRCRAFT BUILDER had a high reject rate while carburizing hydraulic control valves. In addition, production was slow. Rework after rework was necessary because material was brittle and straightening was difficult, if not impossible. Depth of carburization was also hard to control . . . and it was a dirty job, too!

Picture changed overnight — Now, with Allis-Chalmers induction heaters rejects or reworks are eliminated; depth of hardening is held between .078 inches and .080 inches; production is greatly increased; and it's a clean, pushbutton type job.

Where there's a problem with warpage, scaling, or heat control, even a relatively low production item can often be profitably processed using induction heat.

Bring your problems to Allis-Chalmers. Call your nearby Allis-Chalmers district office or write Allis-Chalmers, Milwaukee 1, Wisconsin. A-4170

ALLIS-CHALMERS

▲ For more details circle **NED-495 L3** on enclosed inquiry slip ▲

MODERNIZE WITH TRIPLETT METERS

A SIZE, TYPE, AND STYLE FOR EVERY INSTALLATION

Your instrumentation is strictly modern in design and construction with Triplett Meters. You can have sizes 2" to 7" in a wide variety of case shapes and mounting arrangements, A.C., D.C., R.F., Rectifier or Dynamometer. Molded and metal cases, rear illumination, and other special features are available. For precision and economy virtually every meter part is made in Triplett plants under rigid humidity and dust control. Every meter represents the refinements gained in half a century of meter experience. Keep *your* panels up-to-the-minute with Triplett Meters—famous the world over for quality, accuracy, and dependability.

Triplett Electrical Instrument Co.
Bluffton, Ohio, U.S.A.

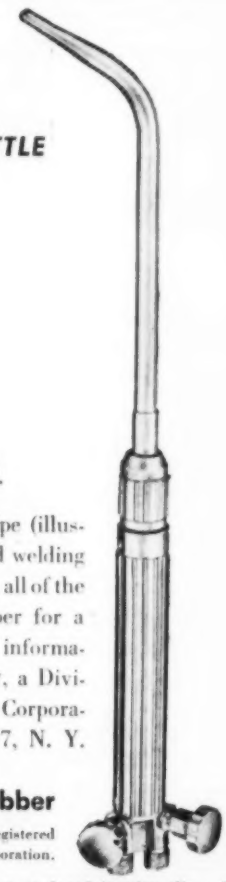
TRIPLETT

▲ For more details circle **NED-496 L3** on enclosed inquiry slip ▲

HERE'S WHY

PRESTOWELD
Trade-Mark

BLOWPIPES *COST SO LITTLE TO USE AND MAINTAIN*



SELF-SEATING VALVES
Reseat scored valves when turned tight.

RUGGED HANDLE ASSEMBLY
Built for long, trouble-free service.

SLIP-FIT "O" RINGS
Perfect gas seals every time.

MIXER IN EACH HEAD
Resists backfires, eliminates burnouts.

SWAGED, PURE COPPER TIPS
Heads snap in handle. No wrench needed.

The PREST-O-WELD W-122 blowpipe (illustrated) is available with 13 standard welding heads and 3 multiflame heating heads, all of the snap-in type. Ask your LINDE jobber for a demonstration or write for further information. LINDE AIR PRODUCTS COMPANY, a Division of Union Carbide and Carbon Corporation, 30 E. 42nd St., New York 17, N. Y.

get it from your LINDE jobber

The terms "Linde" and "Prest-O-Weld" are registered trade-marks of Union Carbide and Carbon Corporation.

▲ For more details circle **NED-497 L3** on enclosed inquiry slip ▲

FREE SAMPLE

- Makes and keeps belts soft and pliable
- *Pliable* belt "clings" to "surface" of pulley
- Dissolves hard "glaze" that makes belts slip
- *Only* belt preservative that has met and passed U. S. Government Tests and Requirements
- Sold with money-back guarantee since 1896

Cling-Surface Company, Inc.
1045 Niagara Street • Buffalo, New York

Please send me FREE sample can of Cling-Surface "50" Belt Preservative

Name.....
Title.....
Company.....
City.....State.....

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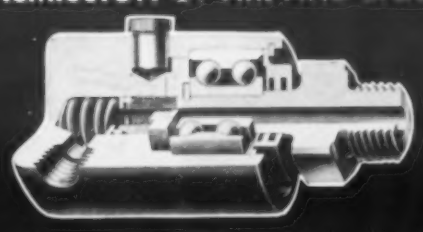
FAWICK ROTORSEAL
PROVIDES TROUBLE-FREE TRANSMISSION OF AIR AND LIQUIDS



If your machine problem requires the transmission of air or liquids from stationary to rotating machine members, a FAWICK ROTORSEAL will provide the trouble-free, practical answer.

Precision-made ROTORSEALS are available in either single or multiple passage units, producing an absolute sealing of air, liquids, or gases under pressure. They are equally effective in vacuum applications. Thousands of installations have proved the high efficiency of FAWICK ROTORSEALS.

FAWICK AIRFLEX DIVISION
FEDERAL FAWICK CORPORATION
9919 CLINTON ROAD
CLEVELAND 11, OHIO

Write for ROTORSEAL Bulletin ML-6.

FAWICK Airflex
INDUSTRIAL CLUTCHES AND BRAKES

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hitch your HEAT to a WISSCO STEEL PROCESSING BELT

Turn your products out faster, more economically in continuous straight-line production with a Wissco Belt. To order, write or call our nearest sales office.

THE COLORADO FUEL AND IRON CORPORATION—Denver, Colorado
PACIFIC COAST DIVISION—Oakland, California
WICKWIRE SPENCER STEEL DIVISION—Atlanta, Boston, Buffalo, Chicago, Detroit, New Orleans, New York, Philadelphia

1430

WISSCO BELTS
PRODUCT OF WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL AND IRON CORPORATION CF&I

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Autographs
ADHESIVE BACK METAL NAMEPLATES

FASTER, LESS-COSTLY
PERMANENT PRODUCT IDENTIFICATION

Take the "cost" out of product indentification with solvent-activated, adhesive-back "AUTOGRAPHS" Mount them in seconds with your fingertips No brads, rivets or tools are used, yet they stick to their job for life on any surface Colorfully lithographed "AUTOGRAPHS" are produced in many sizes on many types of metal Attractively designed, too, from your letterhead, blue print or rough sketch

Tag-a-long GOLF CARTS — CARTS INC. DELAVAN, WIS.

LYMAN SIGHTS
METALLIC AND TELESCOPIC
IDEAL RELOADING TOOLS • CUTTS COMPS

LeFebure CORP. CEDAR RAPIDS IOWA U.S.A.

ADVERTISING IMPRESSIONS THAT STICK!
WRITE TODAY for prices and "try before you buy" samples!
METALcraft INC. MASON CITY, IOWA

▲ For more details circle **NED-501 L3** on enclosed inquiry slip ▲

PAINT MARKING GUN
uses paint in disposable cans

Using paint that does not settle, thicken or skin over, the Nel-Spot self-contained marking gun is used for placing identifying symbols on railroad ties, lumber, steel, trees and other objects. Paint is supplied in quart-size disposable cans in yellow, red, blue, white and orange. Gun has a protective cup to prevent paint drying while gun is in use, cleaning wire in the cap to keep the orifice open and a reversible tip to blow out dirt. Made by **Nelson Co.,** Dept. NE-1, Iron Mountain, Mich.

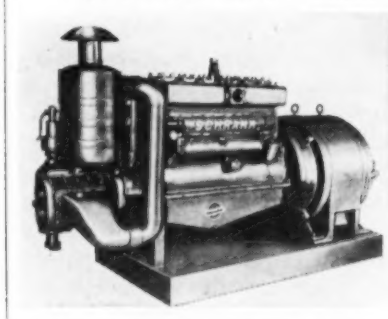
▲ For more details circle **NED-502 L3** on enclosed inquiry slip ▲

OPEN-END WRENCH
fits into tight corners

Wedge-shaped jaws and narrow head of the Wedg-Head open-end wrench permit use in tight corners, against walls and over obstructions where other tools cannot reach. Because the head is angled, the wrench takes solid "bites" on thin square or hex-shaped nuts and allows tool to clear obstructions without skinning knuckles. Made of heat treated alloy steel, they are available in 7/16-½-in., 9/16-⅝-in. and ¾-⅞-in. sizes. Made by **Blackhawk Mfg. Co.,** Milwaukee 46, Wis.

▲ For more details circle **NED-503 L3** on enclosed inquiry slip ▲

AIR COMPRESSOR
provides 600 cfm at 100 psi



Powered by a 150 hp induction motor, the model 600 Super Unistage industrial compressor is capable of providing 600 cfm of air at 100 psi. Application can be to unit system installation in large industries, or as a central supply of air where 600 cfm is sufficient for all needs. Although powered by an induction motor, synchronous motors are available. As it is vibrationless, it can be installed without foundation and can be moved from one location to another by fork truck. Running water or built-in cooling units are available. Made by **Schramm, Inc.,** Dept. NED, West Chester, Pa.

▲ For more details circle **NED-504 L3** on enclosed inquiry slip ▲

Tile Manufacturer reports 20% increase in standard quality ware after installation of FRANTZ DRY Magnetic Separators

Model 68V FRANTZ FERROFILTER magnetically separating iron particles from talc body just ahead of the mixer.

Too much iron contamination in the talc body of glazed tile caused excessive losses through rejects. After two FRANTZ FERROFILTERS were installed, the normal, undesirable gray-white color changed to sparkling white. These magnetic separators have paid for themselves in less than six months. If you have an iron contamination problem in either WET or DRY materials, investigate the FRANTZ line of FERROFILTERS.

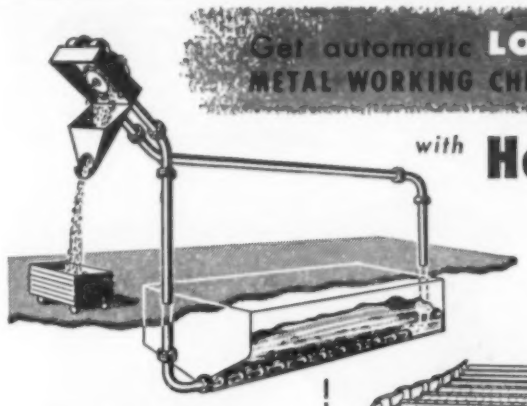
FERROFILTER

Send for BULLETIN 56E

S. G. FRANTZ CO., Inc.
P. O. Box 1138 Trenton 6, N. J.

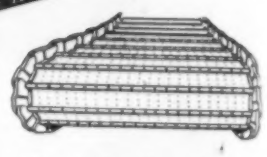
▲ For more details circle **NED-505 L3** on enclosed inquiry slip ▲

Get automatic LOW COST h METAL WORKING CHIPS
with Houdaille



Houdaille Chain Drag Conveyors

Completely enclosed flights and chain automatically collect, transport and discharge chips, sludge, scale and other types of solid or fibrous material which settle to the bottom of tanks or hoppers. System eliminates manual handling methods, conserves manpower and requires little or no maintenance. Available in standard pipe sizes of 3", 4", 6" or 8". Larger sizes available on request. Choice of chains, flights, casings, accessories available, depending on application.



Houdaille Pan Type Conveyors

One-piece, heavy-gauge steel plates, with all-welded hinges, lock together firmly with connecting rod to form perfect pan-type conveyor for chips. Welded hinges, rod connections and side wings, securely interlocked even when chain negotiates sprocket, prevent fall-through of material. Plates perforated for drainage, depending on application.

▲ For more details circle NED-506 L3 ▲

meet the bright new MA'H LOADSTA

a spectacular perfor in the fine trolley fie

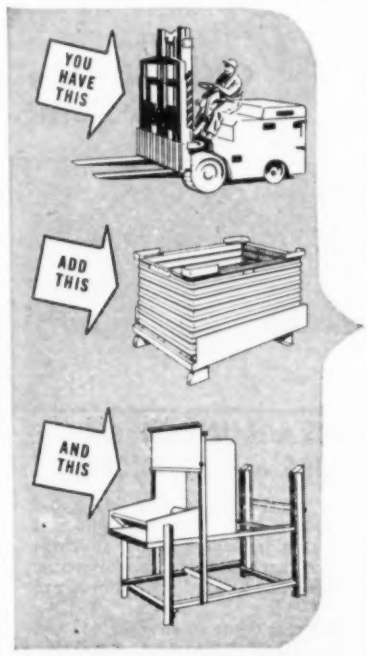
★ Top-quality precision wheels are the heart o rugged newcomer to the 4" trolley conve fiel you demand stamina and exceptional perman your overhead conveying equipment, th No. Mathews Loadstar was developed for yo As Bulletin LS1, announcing and describing this trolley conveyer. It was designed to meet e rec ments of the most exacting buyer.

MATHEWS CONVEYORS

GENERAL OFFICES: *Mathews Conveyer Company, Elmwood Cit*
PACIFIC COAST DIV. *Mathews Conveyer Co. West Co San C*
CANADIAN DIV. . *Mathews Conveyer Company, Ltd., Hope*

Engineering Offices or Sales Agencies in Principal American Canadi

▲ For more details circle NED-507 L3 ▲



Put these 3 together ...see what you SAVE

RIGHT now, in plant after pl Work-O-Matic co in a boosting production up to % p station . . . *without an increase in man power or space.* Here are the re

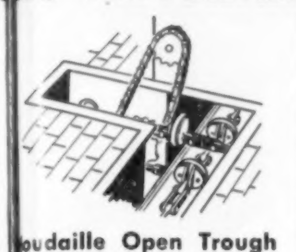
First, the Work-O-Matic ro box discharges *automatically* wh

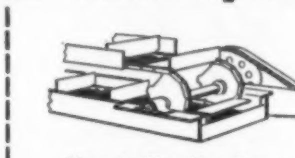
UNION METAL
Material Handling Equipment

▲ For more details circle NED-508 L3 ▲

COST handling of loose materials such as
• D • SCALE • CRACKLINGS • POWDERS • ETC.

daille Automatic Conveyors





Houdaille Slat Type Trough Conveyors

Slat type trough conveyors, operating individually or in sequence, transport material to any given point—can be operated continuously or intermittently as desired. Slats and chain move material in open troughs, return automatically to collection or transfer points.

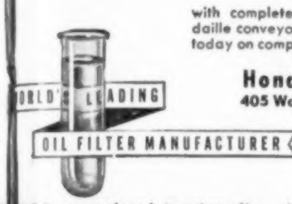
oudaille Open Trough Chain Conveyors

ain Drag Conveyors, installed op n troughs, offer advantages many operations. Below-floorel installation, illustrated, reves chips from gear cutters, eps system from interfering with avy traffic plant areas . . . ofs access to chain and flights at y point of circuit.

eel es, on- ect ps. ec- ely ain ent tes le-

NEW Comprehensive Catalog . . .

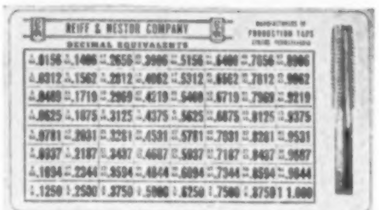
with complete information on all Houdaille conveyors is now available. Write today on company letterhead to . .



Honan-Crane Corp.
405 Wabash Ave., Lebanon, Ind.
a subsidiary of
Houdaille-Hershey Corp.
In Canada:
E. W. PLAYFORD, LTD., Montreal 28
W. E. MICKLETHWAITE, Toronto 18

rcle NED 6 L3 on enclosed inquiry slip

DECIMAL EQUIVALENT CHART
also shows tap drills and threads



Printed on dirt and grease-resistant Vinylite, this decimal equivalent, tap drill and screw thread chart is available without charge. It lists fractions and decimal equivalents from 1/64 to 1 in. by 64th's. On the opposite side are National Course and Fine threads, pipe threads and ASME standard and special threads with equivalent tap and body drill sizes. All figures are printed in large clear type. Chart available from **Reiff & Nestor Co.,** Lykens 2, Pa.

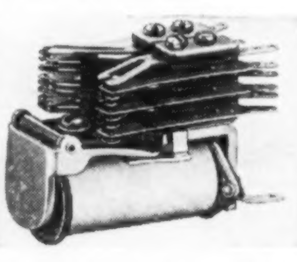
For more details circle **NED-509** L3 on enclosed inquiry slip

HEAVY-DUTY ENGINE
is four-cycle opposed cylinder type

Delivering up to 26.8 hp at 3600 rpm, K-660 heavy duty gasoline engine is four-cycle, air-cooled, opposed-twin type. It weighs 225 lb, and standard equipment includes heavy duty muffler, diaphragm type fuel pump, oil bath air cleaner and oil pressure gage. Air cooling system is designed to keep engine at correct operating temperature under all conditions. Governor is an externally mounted precision oil-bathed flyweight type, and is adjusted at 3000 rpm with load unless otherwise specified. Made by **Kohler Co.,** Dept. 2, Kohler, Wis.

For more details circle **NED-510** L3 on enclosed inquiry slip

RELAYS
offered in several series



Included in line of relays is the series 100 direct current computer relay, bearings of which have essentially zero friction. Life span is said to be 10 million cycles. Series 300 direct current miniature relays weigh under 2 oz and incorporate an antivibration feature. Series 400 alternating or direct current coaxial relays withstand 10G vibration at 10-55 cps under operation tests. Series 500 direct current communication relays can perform mechanical work in addition to operating contacts, making them applicable where automatic punching is required for control system applications. Made by **Joseph Pollak Corp.,** 85 Freeport St., Boston 22, Mass.

For more details circle **NED-511** L3 on enclosed inquiry slip

"Weld-Bilt" EQUIPMENT GIVES YOU LONGER SERVICE IN LABOR-SAVING MATERIALS HANDLING

You can SEE the greater strength and durability in WELD-BILT Equipment . . . in heavier arc-welded construction, in sturdier operating parts, in many innovations that assure easier, friction-free operation. Every piece of "Weld-Bilt" equipment is designed to save operator fatigue, protect product and save money both on original cost and maintenance expense.

You can easily PROVE "Weld-Bilt's" superiority through many more years of actual performance in hundreds of plants all over the Nation. It means your lowest possible investment-per-year in time and labor saving.

Write or wire for prices today . . . or for engineering assistance on your handling problems or plans.

WEST BEND EQUIPMENT CORP.
MATERIALS HANDLING ENGINEERS
311 Water Street, West Bend, Wisconsin

For more details circle **NED-513** L3 on enclosed inquiry slip

MA HEWS

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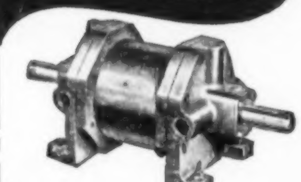
NVEY RS

Company, E d City, Penna.
Co. West Co San Carlos, Cal.
pany, Ltd., Hope, Ontario
American Canadian Cities
circle NEI L3 on enclosed inquiry slip

GET THESE FEATURES IN ALL YOUR FUTURE CYLINDERS



Hydraulic High Pressure

- ★ Centrifugally Cast Cylinder Bodies
- ★ Cast Steel or Semi-Steel End Caps
- ★ Cast Iron Piston with Automotive Type Rings
- ★ Leakproof Packing. "O" Rings in each end cap
- ★ Adjustable Port Location
- ★ Fixed Cushions Standard Construction — Adjustable Cushions Optional

Air and Low Pressure Hydraulic

- ★ Compact — No Tie Rods
- ★ Extra heavy walls of selected tubing
- ★ Metal to metal assembly preloads piston cups
- ★ Automatic rod packing requires no take-up. Seals under pressure
- ★ Aluminum alloy piston with steel cup retainer
- ★ Extra long rod guide

HYDRO-LINE CYLINDERS CONFORM TO J. I. C. STANDARDS

➡ FREE Additional Data

covering additional construction and performance features are included in this catalog. Write for your copy today. Ask for bulletin 350.

Hydro-Line

HYDRO-LINE MFG. CO.
701 19th St.
ROCKFORD, ILLINOIS

For more details circle **NED-514** L3 on enclosed inquiry slip

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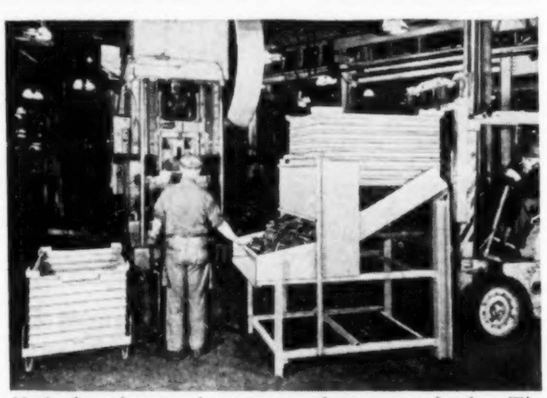

Notice how these 3 units team up to increase production. The drop-bottom feature of the Work-O-Matic box is also a great time saver in many other dumping operations.

n pl nt t plant, this
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on up to % per work
an incr in machines,
. He e a e reasons—
k-O-Ma dro -bottom
tomatica wh n placed

in the positioning stand, providing a mass supply of material at proper work level! This c s down the time and effort of both truck and process operators.

Secondly, the station is far more *productive,* because waste-motion stooping and stretching elements are eliminated as well as lost time waiting for material supply.

Write for Catalog 83 describing these and other Work-O-Matic units. Address The Union Metal Manufacturing Co., Canton 5, Ohio.

*Patent No. 2,445,038. Other patents pending.

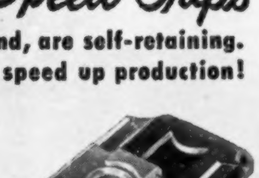
AL
pmen

circl NE L3 on enclosed inquiry slip

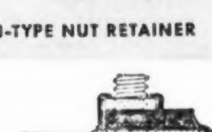
TINNERMAN Speed Grips®

. . . snap into place by hand, are self-retaining. Save time and material, speed up production!

SPEED GRIP NUT RETAINER



J-TYPE NUT RETAINER



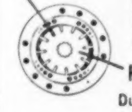
Tinnerman nut retainers are making production savings of more than 50% for manufacturers everywhere. Welding, staking, riveting operations are out with these self-retaining fasteners. Ideal for blind locations, built-in floating alignment prevents cross threading. No retapping of paint-clogged threads. Tinnerman nut retainers can be applied after painting. Easily attached by hand; no need for special tools, jigs or skills. Available in a full range of sizes for light or heavy attachments. For complete details write:

TINNERMAN PRODUCTS, INC.
Dept. 12, Box 6688, Cleveland 1, Ohio

For more details circle **NED-512** L3 on enclosed inquiry slip

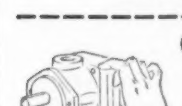
"The Finest Money Can Buy!"

FOR SMOOTHER, LONGER-LASTING PERFORMANCE

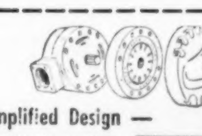


Hydraulically Balanced Vanes — Less load on cam ring — low loading characteristics at all operating pressures.

Radially Balanced Rotor — Dual, opposed inlet and exhaust porting — complete radial balance.



Compactly Built — Delivering 7.5 gpm at 2000 psi, this typical Pump/Motor is only 4 1/8" wide — only 8" long, including shaft.



Simplified Design — Built of only three rugged, close-coupled components — extra stamina.

Denison Pump/Motors — *ready for either pump or motor use without alterations*— are built for *long continuous* duty at 2000 psi. Vanes have dual sealing edges. Inlet and exhaust porting adjustable to easiest installation. Direction of rotation easily reversed. Pumping capacities from 2.7 to 70 gpm . . . torque ratings from 13 to 257 pound-inches per 100 psi. Write for Pump/Motor Bulletin P-5.

The DENISON Engineering Co.
1151 Dublin Rd., Columbus 16, O.

DENISON HydrOILics
PUMP / MOTOR

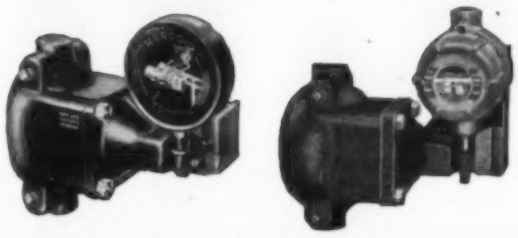
For more details circle **NED-515** L3 on enclosed inquiry slip

MERCOID
LIQUID LEVEL CONTROLS

EQUIPPED WITH SEALED MERCURY CONTACT SWITCHES

For Use With

GASOLINE, OIL, AMMONIA OR LIQUIDS WITH SPECIFIC GRAVITY AS LOW AS .60*



FOR OUTDOOR, INDOOR OR EXPLOSIVE ATMOSPHERES

Mercoid Liquid Level Controls will "make" or "break" contact on approximately 1" level change.
Construction: Float chamber available cast iron, steel or stainless steel. Float—steel, nickel plated, copper, or stainless steel. Packing Gland—brass, monel or stainless steel. Also available packless (torque rod) construction.
Circuit: For various circuit arrangements up to triple pole, double throw. Electrical Capacity: A.C. or D.C. 10 Amp., 115V., 5 Amp., 230V., 3 Amp., 440V.
*With special construction Mercoid Liquid Level Controls are available for specific gravities as low as 0.45

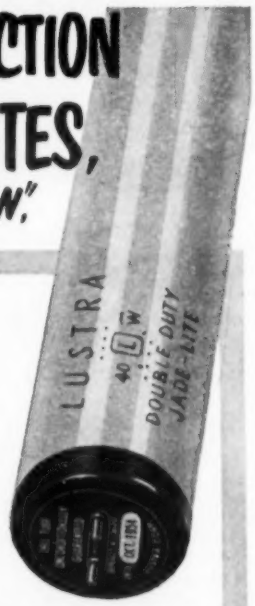
(Write for Bulletin 39S.)

THE MERCOID CORPORATION, 4201 BELMONT AVE., CHICAGO, ILL.

▲ For more details circle **NED-516 L3** on enclosed inquiry slip ▲

"FASTER PRODUCTION WITH JADE-LITES,
thanks to the **LUSTRA MAN,"**

[*says The Philadelphia Thermometer Co.*]



Mr. L. W. Scanlan, General Mgr., reports: "Ordinary fluorescents in our production department caused annoying glare. Our local Lustra Man suggested Lustra Jade-Lite Fluorescents which eliminated both glare and eyestrain and speeded production importantly."

Your local Lustra Man can solve your lighting problems, too... and save you money at the same time. Write for literature giving the whole Lustra story. **Lustra Corporation, Dept. R-10, 36 Washington St., Brooklyn 1, N. Y.**

Lustra
AMERICA'S DATED LAMPS

DOUBLE DUTY REFLECTOR LAMPS, INCANDESCENT LAMPS, FLUORESCENT TUBES, SPOTLITES AND FLOODLITES, RUGGED DUTY LAMPS, FLUORESCENT FIXTURES AND STARTERS

▲ For more details circle **NED-517 L3** on enclosed inquiry slip ▲

THE Improved **FLEX-A-FOAM FILTER MASK**

Your best ounce of protection against

IRRITATING DUST

HERE'S WHY:

★ **Workers wear it** Lightweight (just 1 ounce), snug, comfortable and easy-to-breathe through, Flex-a-Foam is the *one* respirator your workers actually *welcome*.

★ **It's super-efficient** Flex-a-Foam's pure latex filter protects against nuisance dust particles 100 times smaller than the eye can see!

★ **It's simple** Only four sturdy, long-wearing parts — all interlocking — all *unconditionally* guaranteed.

★ **And—it's economical** *Low first cost* — less than any other *quality* respirator on the market. *Low upkeep* — washable filter outlasts throwaway type by more than 100 to 1!

Dust Protection Your Workers Will Welcome and *Wear*

SAMPLE STILL ONLY $1.40 POSTPAID

FLEX-A-FOAM® FILTER MASK

THE GOGGLE PARTS COMPANY • CLEVELAND 13, OHIO

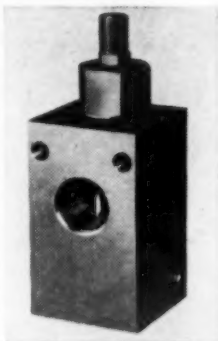
▲ For more details circle **NED-518 L3** on enclosed inquiry slip ▲

TIME SWITCHES
for on-off cycles of 1 hr or less

Applicable for wide range of equipment requiring intermittent operation with on-off cycles of 1 hour or less, line of T670 Inter-Matic time switches accommodate up to 12 on-off operations on single dial. Each operation is adjusted independently by trippers which give settings from 5 to 60 minutes. Setting is facilitated by small time scale stamped on face of each tripper. Time selector pointer is held in place by a small screw, and is easily adjusted. Available in 125 and 250-v models, controls can be used single-pole single-throw normally-open, single-pole single-throw normally-closed or single-pole double-throw with circuits alternately open and closed. Made by **International Register Co.,** 2624 W. Washington Blvd., Chicago 12, Ill.

▲ For more details circle **NED-519 L3** on enclosed inquiry slip ▲

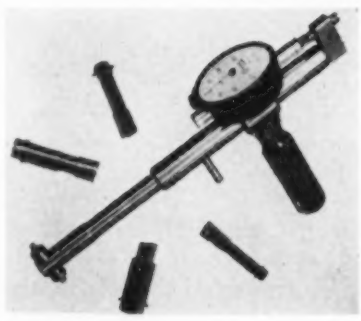
RELIEF VALVES
for use with oil or gasoline



With relief pressures adjustable between 50 and 300 psi, line of ¾ in. relief valves are of the pilot type and have constant pressure characteristics. This construction also gives large capacity in small space, the overall size of the units being 2 x 2 x 5¼ in. Valves are for use with oil or gasoline. Made by **Fluid Controls, Inc.,** Dept. B, 1284 N. Center St., Mentor, O.

▲ For more details circle **NED-520 L3** on enclosed inquiry slip ▲

DIAL BORE GAGES
feature interchangeable heads



Standard gage heads, for measuring O-ring grooves, snap ring grooves, pitch diameters of internal threads and small bores, and most special gage heads are now interchangeable on this dial bore gage. This feature makes it feasible to use precision checking equipment on development projects, short runs or contract work where expenditure for a complete gage is not justified. It also brings precision internal gaging costs within budget of small shops. Made by **Rimat Tool Co.,** 21 W. Dayton St., Pasadena 2, Calif.

▲ For more details circle **NED-521 L3** on enclosed inquiry slip ▲

FAMOUS "CHEM-BOARD"* **CONVOY TOTE BOXES**

*Chemically Hardened Corrugated Board

SOLD THROUGH LOCAL INDUSTRIAL DISTRIBUTORS

Cost—weigh—50% to 60% less than steel. A wide range of sizes in standard and custom made NESTING, STACKING, VERTICAL TOTE BOXES. Write for complete information, prices, name of distributor in your area.

CONVOY RECORD STORAGE FILES
Sold Only by YOUR LOCAL STATIONER

Used by most famous names in industry and businesses of all kinds. CONVOY "CHEM-BOARD" files for record storage made in letter, legal, and 12 other sizes. Stack to ceiling, mate together. Call your local stationer or write for name of stationer nearest to serve you.

CONVOY, INC.
Canton 6, Ohio
P. O. Station B, Box 216-N

▲ For more details circle **NED-522 L3** on enclosed inquiry slip ▲

now available

NEW NORGREN automatic-drain filter for compressed air lines

Fully automatic draining and filtering . . . operates under constant or fluctuating air pressure . . . *with or without air flow.*

WRITE FOR COMPLETE DATA

Valves • Filters • Regulators • Lubricators • Hose Assemblies

C. A. Norgren® CO.
3405 S. ELATI ST., ENGLEWOOD, IN COLORFUL COLORADO

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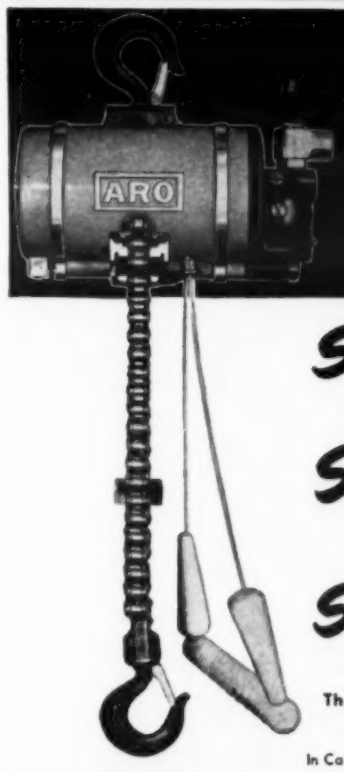

ARO
1000 pound AIR HOIST

SPEED...
Lift rate . . . over 40 ft. per minute!

SIZE...
Overall length 10¼" weighs only 28½ lbs.

SAFETY...
Betters all safety requirements!

Write for full details.
The Aro Equipment Corporation
Bryan, Ohio
Offices in All Principal Cities
In Canada—Aro Equipment of Canada, Ltd. Toronto, Ont.

ARO AIR HOIST

Also . . . Air Tools . . . Lubricating Equipment . . . Aircraft Products . . . Grease Fittings

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Tops in Quality !

ILLINITE®
STANDARD CUTTING TOOLS

Now you can have End Mills, Saws, Milling Cutters, Tool Bits, Hobs and Shaper Cutters featuring the design advantages and precision that have won such wide recognition for Illinois Tool Works engineered cutting tools.

AVAILABLE FROM STOCK AT LEADING DISTRIBUTORS

yours Free... write today for this complete catalog with price and dimensional data.

ILLINOIS TOOL WORKS
2501 North Keeler Avenue Chicago 39, Illinois

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FREE

NEW EXHAUST FAN CATALOG

Here is valuable data on how to plan effective exhaust fan installations, plus complete specifications of Emerson-Electric Exhaust Fans. Send today for Bulletin No. 745.

THE EMERSON ELECTRIC MFG. CO.
St. Louis 21, Mo.

EMERSON ELECTRIC
FANS • MOTORS APPLIANCES

For more details circle **NED-526 L3** on enclosed inquiry slip

You Can Take the Word of 50,000 Firms

That SPEED SWEEP Floor Brushes Sweep Cleaner, Faster and Outlast Ordinary Brushes

Unique in design and construction, Speed Sweep so far outperforms and outlasts other floor brushes that over half of the nation's top rated firms use Speed Sweep under widely diversified sweeping conditions. We know Speed Sweep can do a better job for you, too. In fact, we guarantee it. We invite a trial order on that basis. Write for complete facts, including styles, sizes and prices today.

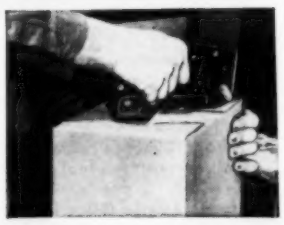
MILWAUKEE DUSTLESS BRUSH CO.
530 N. 22 STREET, MILWAUKEE 3, WISCONSIN

For more details circle **NED-527 L3** on enclosed inquiry slip

BOSTITCH P4 STAPLING PLIER

WORKS WHERE OTHERS WON'T

Thin clinching blade → slips easily into tight places



In assembly operations . . . in sealing bags, cartons, corrugated wrappings . . . in making up containers . . . the Bostitch P4 Stapling Plier is a fast-fastening favorite. Loads quickly and easily . . . clinches staples securely with little effort . . . stands up under long, continuous use. Three models; for light, medium and heavy wires, with leg lengths from 5/32" to 9/16."

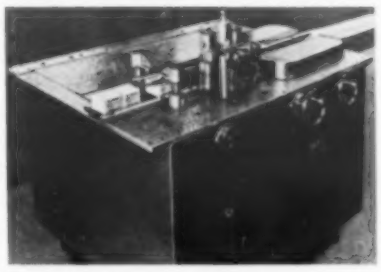
Write for Bulletin 222. Bostitch, 691 Mechanic Street, Westerly, R. I.

FASTEN IT BETTER AND FASTER WITH

BOSTITCH®
STAPLERS AND STAPLES

For more details circle **NED-528 L3** on enclosed inquiry slip

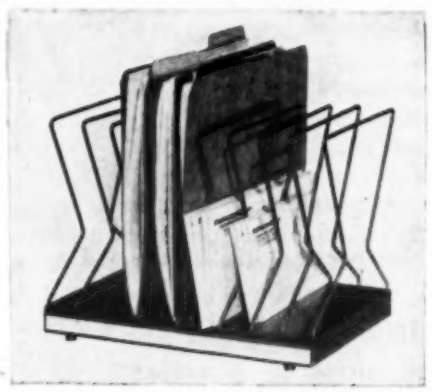
IMPRINTING MACHINE for identifying cartons and boxes



Markocoder 3M automatic package imprinting machine which prints identification data and code-dates on cartons and boxes as an integral part of the packaging operation has been redesigned to incorporate a number of new features. Now called the Golden Jubilee 3M, the machine has a speed of up to 600 units a minute, and length has been reduced from 72 to 54 in. It will handle cartons of unusual dimensions, and will print close to the bottom of a package instead of requiring a 3/16-in. margin as before. Registration control, size adjustment, and ink and die wheel changeover have also been improved. Finally, ink pump is now incorporated in the machine, eliminating the need for a separate motor. Made by **Adolph Gottscho, Inc.**, 6C Terminal Rd., Hillside 5, N. J.

For more details circle **NED-529 L3** on enclosed inquiry slip

METAL DESK ORGANIZER holds folders, catalogs, papers



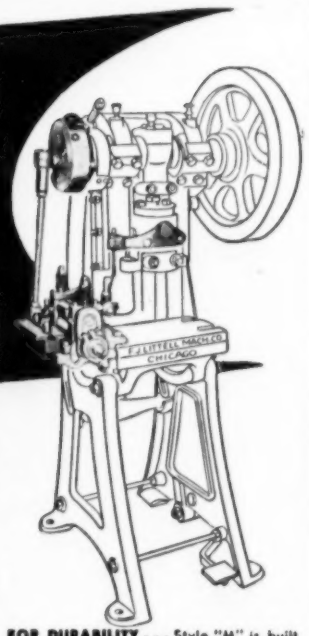
Heavy correspondence folders, catalogs, small and large papers are held upright in easy-to-get-at manner by this metal desk organizer. Wire separators, 1 in. apart, form nine sections. Holder is equipped with rubber feet and a white strip in label holder for labeling each compartment. Dividers are open and unobstructed providing a clear view for quick selection. Available in brown, gray and green Hammertone finishes, holder measures 10 x 8 x 9½ in. Made by **Mayer Mfg. Corp.**, Dept. NED, 3130-3140 W. 51st St., Chicago 32, Ill.

For more details circle **NED-530 L3** on enclosed inquiry slip

DO YOU KNOW? Sponsors of 16-mm sound motion pictures are offered a complete study of the opportunities in television showings of their film on free public service TV programs. Actual case histories are cited, showing stations and audiences reached by typical films. Brochure is available from the Princeton Film Center, Inc., Princeton, N. J.

For more details circle **NED-531 L3** on enclosed inquiry slip

FOR LOW COST AND BIG RESULTS
Feed Your Presses With
LITTELL
STYLE "M" AUTOMATIC
ROLL FEED



FOR SPEED . . . With Style "M" automatic feeding your press can easily produce 9,000 stampings an hour at 200 strokes per minute, or 4,600 stampings an hour at 100 strokes per minute.

FOR VERSATILITY . . . Style "M" feeds left to right, right to left and front to back. Feed direction can be reversed by simply reversing clutch. Feed lengths per stroke are 0 to 4⅜" with standard gears and 0 to 8½" with compound gears.

FOR ADAPTABILITY . . . Style "M" is adaptable to any standard punch press. It feeds coil stock up to 8" wide and up to .055" thick (17 gauge).

FOR SAFETY . . . Style "M" automatic feeding keeps hands and fingers away from danger, prevents costly accidents.

FOR DURABILITY . . . Style "M" is built with hardened and ground feeding rolls and the other quality features that have made Littell Roll Feeds accurate and durable since 1918.

FOR ECONOMY . . . Style "M" brings you a big saving in price. It gives your presses the lowest insurance rate. It cuts your cost per stamping by multiplying press output.

WRITE FOR CATALOG

F. J. LITTELL MACHINE CO.
Speed with Safety

ROLL FEEDS • DIAL FEEDS
STRAIGHTENING MACHINES
REELS • AIR BLAST VALVES
District Offices: Detroit, Cleveland

4169 N. RAVENSWOOD AVE., CHICAGO 13, ILL.

For more details circle **NED-532 L3** on enclosed inquiry slip

MORE HEAT with LESS SPACE use Westinghouse Air Heaters

Westinghouse COROX® and SPEEDTEMP forced convection air heaters are especially designed for space or area heating. They provide positive air circulation to maintain a comfortable room temperature without cold spots. For out-of-the-way, hard-to-heat places, here is the fast, efficient way to provide low-cost heat. Investigate these versatile heaters today.

FREE 26-Page Catalog—Tells you how to select the proper heater that will best fill your needs. Excellent information on heating insulated and non-insulated rooms. A definite help in your heater selection. Mark inquiry card for Catalog 28-020, or write Westinghouse Electric Corp., Industrial Heating Dept., Meadville, Penna.
J-10414

YOU CAN BE **SURE**... IF IT'S
Westinghouse
APPARATUS DISTRIBUTOR WESTINGHOUSE

For more details circle **NED-533 L3** on enclosed inquiry slip

Hold an all with Super-Safe Grip PIONEER Stanzoils

Non-slip grip on Stanzoils acts like sand on ice. Handles wet, oily objects as if dry. Speeds work—cuts accidents.

PIONEER Processed *milled* neoprene gives extraordinary service in contact with oils, acids, caustics and solvents. Milled neoprene has higher tensile, greater tear resistance than any other oil-proof rubber.

N-35 light weight all-neoprene 10-1/2" length. Snug curved fingers. Super-Safe grip surface holds oily, slippery objects as if dry.

Only a liquid-tight glove gives positive physical protection from conditions causing dermatitis.

32 PIONEER Stanzoil styles, weights, sizes and colors. Send for Stanzoil catalog—shows quickly how to pick the best, most economical glove for each job.

The PIONEER RUBBER COMPANY
234 Tiffin Road • Willard, Ohio

STANZOIL PIONEER

Quality Gloves for 35 Years

For more details circle **NED-534 L3** on enclosed inquiry slip

NO WASTE EFFORT

...when you move loads over

ROWE ADJUST-A-DOCKS

There's never a hitch in straight-line travel between plant and truck or rail car With Rowe Adjust-A-Docks those time-consuming, expensive rehandlings during loading or unloading are eliminated.

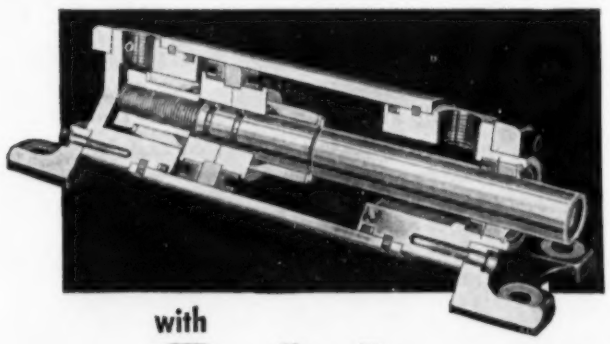
Write today for a free, profusely illustrated and informative booklet detailing Rowe equipment for more effective dock handling.

ROWE METHODS INC.

2534-1 DETROIT AVENUE • CLEVELAND 13, OHIO

▲ For more details circle **NED-535 L3** on enclosed inquiry slip ▲

Solve straight-line motion problems



with O-M (air • hydraulic) CYLINDERS

- elevating
- lowering
- pushing
- pulling
- tilting
- clamping
- opening
- closing
- knock-out operations

From a smooth, delicate push on a testing machine to a rugged thrust on a press application, O-M Cylinders handle all straight-line motion problems with ease and precision. *Special interlocking mechanism* eliminates needless tie rods, end caps . . . saves 1/3 INSTALLATION SPACE. Also assures better alignment, gives O-M the lowest coefficient of friction of *any* cylinder . . . smoother performance at low or high pressure regardless of length of stroke. End plugs tapped for universal mounting. Any one or combination of mounting brackets may be used to install . . . *without disassembling or changing cylinder.* Easily removed, inspected, repaired. 14 DAY DELIVERY ON MOST SIZES.

Available in a full range of sizes (1½" to 8" bores) with standard, 2 to 1 or oversize rods. All machined steel with bearing bronze, no castings. Completely interchangeable parts.

Send today for FREE catalog and complete set of ½ and ¼ scale templates showing all cylinders and mounting brackets.

MAIL COUPON TODAY!

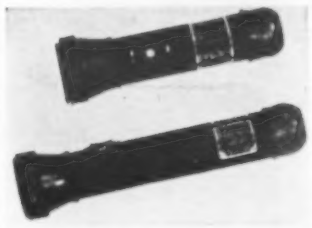
ORTMAN MILLER MACHINE CO.
1222 150th Street • Hammond, Indiana

☐ Please send latest O-M catalog. ☐ Complete set of templates.

Name.....
Company.....
Address.....
City.....Zone.....State.....

▲ For more details circle **NED-536 L3** on enclosed inquiry slip ▲

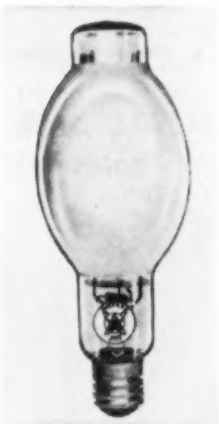
INDUSTRIAL FLASHLIGHTS made with safety features



Approval of Underwriters' Laboratories and Bureau of Mines has been received for these two and three-cell industrial flashlights with identical safety features. Both are of solid drawn brass construction with barrels insulated with heavy corrugated fiber. End caps and lens rings are cushioned against breakage with Neoprene. A circuit breaker cuts contact with batteries to prevent sparking if the bulb is broken. Each has a spare bulb holder, an octagonal head to prevent rolling and can be sealed to prevent unauthorized disassembly. Made by **Olin Industries, Inc.,** Electrical Div., Dept. NED, New Haven 4, Conn.

▲ For more details circle **NED-537 L3** on enclosed inquiry slip ▲

MERCURY VAPOR LAMP gives white light



Phosphor coating on the inside of the outer bulb of this JH-1 mercury vapor lamp emits a red fluorescence which mixes with the blue-green mercury light to produce a white light similar in tone to incandescent light. The 400-W lamp has a light output of 18,000 lumens and a design life rating of 6000 hours. It has a mogul base and will burn in any position. Made by **Amplex Corp.,** Dept. JH-1, 111 Water St., Brooklyn 1, N. Y.

▲ For more details circle **NED-538 L3** on enclosed inquiry slip ▲

LENS CLEANING TISSUES for either glass or plastics

Eye glasses, goggles, glass in welders' head and hand shields, gas masks, windshields, camera lenses and glass equipment of various types can be cleaned and defogged by No-Fog cleaning tissues. Tissues are chemically treated to clean grease and grime from glass and to prevent fogging. They have a germicidal effect, will not scratch the finest glass and can be used several times. Dispensing type package assures ease and economy of use. Made by **Carhoff Co.,** Dept. K, 11706 Kinsman Rd., Cleveland 20, O.

▲ For more details circle **NED-539 L3** on enclosed inquiry slip ▲

AIR-POWERED ROTARY WORK FEEDER *Doubles* DRILL PRESS OUTPUT

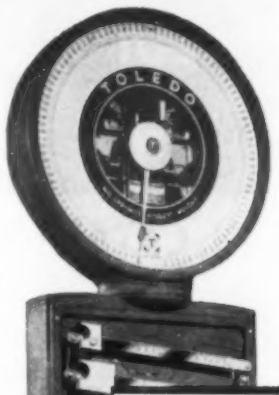
Feeds parts quickly, safely, to and from drill press spindles, press rams, etc. Can be electrically interlocked with spindle movement. Operator can use both hands to load and unload safely away from tool. Three models: 10", 22", and 26" diameter table tops. Can be provided to position any number of stations up to 36.

Write for Bulletin T-85. Free on request. Address Dept. NED 1153.

822A

The Bellows Co.
AKRON 9, OHIO

▲ For more details circle **NED-540 L3** on enclosed inquiry slip ▲



new 44 Ways Better

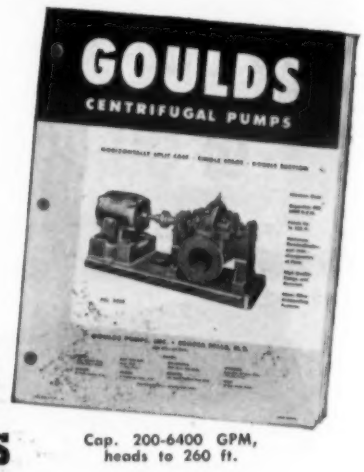
A great new line of Toledos! *44 new features* are now added to the traditional accuracy and dependability of Toledo Scales. Complete range of types and capacities. Get your scale information up-to-date . . . write today for the new condensed catalog No. 2001. Toledo Scale Company, Toledo 1, Ohio.

TOLEDO®
HEADQUARTERS FOR SCALES

Model 2181 —New version of the world's most widely used portable dial scale.

▲ For more details circle **NED-541 L3** on enclosed inquiry slip ▲

12 pages of facts about a NEW LINE of 19 pumps



Cap. 200-6400 GPM, heads to 260 ft.

Here's good news for pump buyers. The new Goulds Bulletin No. 721.6 gives you a host of information on the *extra* design features that are *standard* on Goulds new Fig. 3405 pumps.

Included are stuffing box bushings, steel-impeller keys, Teflon water seal rings — to mention a few.

This pump construction requires only three shaft and rotating parts assemblies (exclusive of wearing rings and impellers) to provide for 19 pump sizes.

But, get all the facts on how you can save on down time, maintenance costs and spare parts inventories. Write for Bulletin 721.6 today.

Goulds PUMPS INC.
Seneca Falls New York

▲ For more details circle **NED-542 L3** on enclosed inquiry slip ▲

Introducing...

the SKINNER V10 MINIATURE PRECISION HYDRAULIC VALVE

Skinner's new V10 Series Miniature Hydraulic Valve is an amazingly compact unit, capable of handling pressures up to 1000 P.S.I.

This precision-made valve is ideally fitted for use in the automatic operation of single and double acting hydraulic cylinders, and in pilot control of larger three and four way hydraulic valves.

The V10's construction is consistent with the Skinner quality tradition: most internal parts are of stainless steel; the slide mechanism has a precision-ground piston, and a bore honed to extremely close tolerance, thus minimizing leakage.

Specifications: 1/8" NPT threaded ports; effective orifice diameter of 3/32"; available in the full range of AC and DC voltages.

The economical design and unusually small size of the Skinner Miniature Hydraulic V10 valve will enable many manufacturers to install it in places where, heretofore, remote control devices have been considered impractical.

Skinner ELECTRIC VALVE DIV.
THE SKINNER CHUCK COMPANY
112 Edgewood Ave., New Britain, Conn.

▲ For more details circle **NED-543 L3** on enclosed inquiry slip ▲

MERRILL MATERIALS HANDLING DEVICES

13-M-2

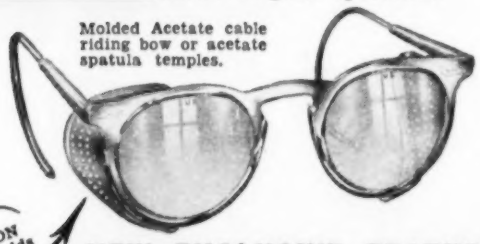
MERRILL BROTHERS
56-13 ARNOLD AVENUE MASPETH, N. Y.

For more details circle NED-544 L3 on enclosed inquiry slip

30% LIGHTER

the NEW SAF-I SPECTACLE

The combined weight of the NEW Plastic Frame and Optilite A Lens is 30% less than hardened glass spectacles.



SNAP-ON Side Shields

NEW EXCLUSIVE FEATURES

- 30% less weight
- Dual-Purpose Frames
- Snap-on Side Shields
- Optilite A Plastic Lens

Write for literature and Prices

UNITED STATES SAFETY SERVICE CO.
KANSAS CITY 6, MISSOURI · BRANCHES IN PRINCIPAL INDUSTRIAL CITIES
In Canada PARMELEE, LTD. Toronto—Montreal

For more details circle NED-545 L3 on enclosed inquiry slip

CUTTING COMPLAINTS

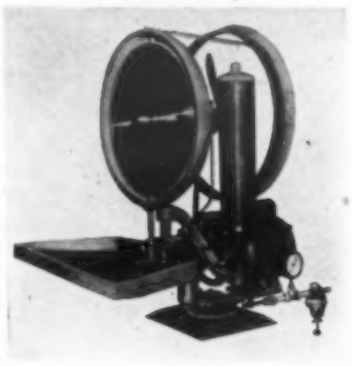
A pinch of dust or grit at your assembly line inspection bench or in the packing and shipping room can cause very expensive service calls later on. Spencer Vacuum is easily piped to each room and bench. It will speed production—save time in general cleaning and with special attachments, can collect water, pick up welding flux, reclaim materials and do 130 other jobs that are too expensive by hand. Ask for Bulletin No. 144.

with SPENCER HARTFORD VACUUM

THE SPENCER TURBINE COMPANY • HARTFORD 6, CONNECTICUT
SPENCER HARTFORD
466-H

For more details circle NED-546 L3 on enclosed inquiry slip

HUMIDIFIER
unit is fully automatic



Capable of maintaining the desired relative humidity within approximately 1 per cent, this humidifier is completely automatic in operation. One machine conditions approximately 15,000 cu ft, and each is fitted with individual controls. Units have motor and propeller type fan to assure even air circulation. Applications include use in tanneries, printing plants, bakeries and many other manufacturing and processing plants. Made by **Southworth Machine Co.**, 31 Warren Ave., Portland, Me.

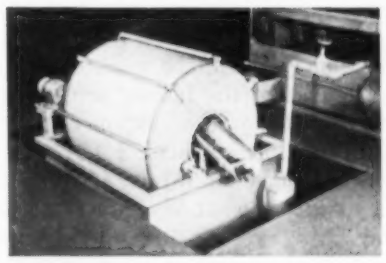
For more details circle NED-547 L3 on enclosed inquiry slip

PLASTIC PIPE FITTINGS
made in several materials

Included in line of plastic fittings of various types (see photo) are high impact strength styrene fittings for flexible pipe and butyrate fittings for semirigid pipe. All standard sizes and types of plastic pipe can accommodate the fittings. Nylon fittings are available upon request. Made by **Plastiline, Inc.**, Dept. C, 2 Intervale St., White Plains, N. Y.

For more details circle NED-548 L3 on enclosed inquiry slip

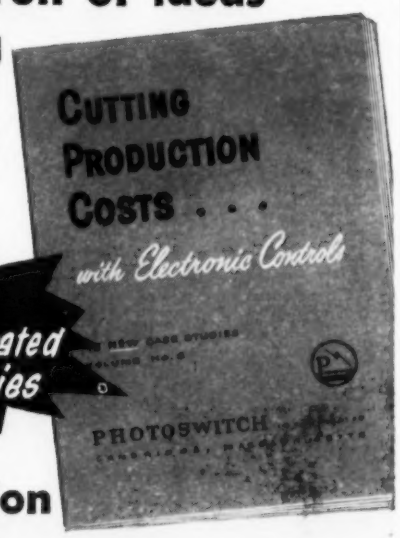
AUTOMATIC FILTER
uses stainless or brass screens



Automatic industrial filter rotates fresh filtering area into position while simultaneously ejecting contaminant cake. Screens can be supplied in Monel, stainless steel, brass or bronze, with openings sized to fit all requirements. Filter can be used on individual machine unit, or as central filter for many units. Filtration capacity can be increased by adding filter drums in tandem, separately, or in same tank to meet requirements. Made by **Murray-Way Corp.**, Dept. N, P. O. Box 180, Birmingham, Mich.

For more details circle NED-549 L3 on enclosed inquiry slip

FREE! Full of ideas for saving with Electronic Controls



45 new illustrated case studies

1953 Edition

A completely revised edition of the handbook that has become the "bible" of electronic control for thousands of engineers and production executives.

Newly edited, with 45 new case studies showing how standard packaged electronic controls have solved many industrial problems you're likely to meet. It explains clearly and factually, without hocus-pocus, tested ideas for achieving new efficiency through "Electron-eered" counting, weighing, measuring, timing and cycling.

SEND FOR YOUR COPY NOW!

PHOTOSWITCH INC.
Dept. NA 11, 77 Broadway, Cambridge 42, Mass.

For more details circle NED-550 L3 on enclosed inquiry slip

PROFITABLE
PRODUCTIVE
ECONOMICAL

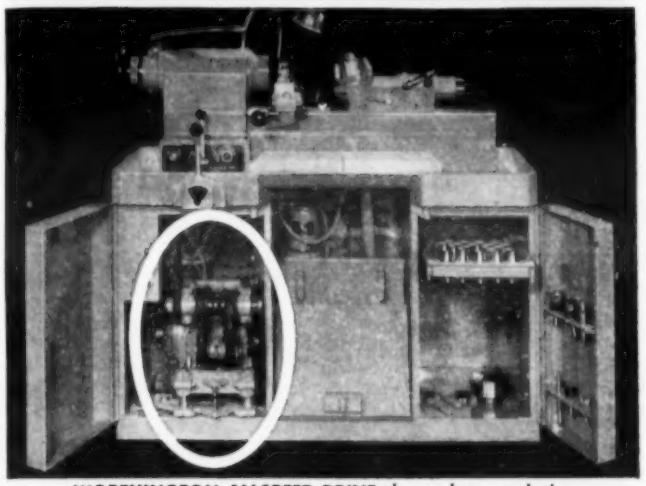
THE SUREWELD® PORTABLE D-C WELDER

The Sureweld Gas Driven D-C Welder is small enough, portable enough to go wherever the operator can go. And that's why it's so profitable, productive, economical. Delays, expenses, interruptions normally a part of on-the-job welding are eliminated. More time is spent welding. More welding is done. And the savings are usually enough to repay its cost in a few short weeks. Its capacity is ample for 85-90% of on-the-job welding. We'll be glad to demonstrate in your shop what owners say is the most useful welder they ever had. Or to send a copy of bulletin NH-121. Write today.

Copyright 1953, National Cylinder Gas Company

NCG® National Cylinder Gas Company
840 N. Michigan Ave., Chicago 11, Illinois

For more details circle NED-551 L3 on enclosed inquiry slip



WORTHINGTON ALLSPEED DRIVE shown here on lathe

. . . Lets you select the correct speed for every job

Worthington's Allspeed Drive, easily installed on your present machinery, permits quick, accurate selection of the proper speed for every material and job.

Infinitely variable speed changes are easily made on the Worthington Allspeed Drive by moving the speed control handwheel. Precise setting is indicated on a conveniently located dial. Allspeed Drives may also be operated by controls on the equipment in which they are installed. Power is transmitted through a mechanically adjustable tandem V-belt arrangement which provides stepless speed variations over whatever range you need.

Mountable in any position. Runs in either direction. Life-lubricated bearings throughout. All rotating parts fully machined and balanced. Automatic belt tensioning with no operative spring. Available in skeleton form, with cover or with built-in motor. For information on the applications, capacities, dimensions, installations and specifications on the Worthington Allspeed Drive, send this coupon today.

ALLSPEED MOTOR DRIVES with exclusive two-belt design give you complete speed variation and an extremely compact unit for easy installation.

WORTHINGTON AS.3.5

WORTHINGTON CORPORATION
Oil City, Pennsylvania

Please check one:
( ) For reference
( ) For immediate project

( ) Please send Bulletin AS-1600-B6 on Worthington Allspeed Motor Drives.
( ) Bulletin AS-1600-B3 on Worthington Standard Allspeed Drives without motors.

NAME .....
ADDRESS .....
CITY ..... ZONE ..... STATE .....

For more details circle NED-552 L3 on enclosed inquiry slip

JUST THE VALVE for Mildly Corrosive Services

CRANE 18-8 Mo Alloy Trimmed Alloy Cast Iron Gate Valves

NOW AVAILABLE IN SIZES 2 TO 18 IN.

Here's the Crane valve that economically solves the problem of seating surface corrosion in many a process. All seating surfaces . . . and the stem . . . are corrosion resistant 18-8 Mo alloy. Valve body and disc are alloy cast iron.

And it's a strong and sturdy valve with liberal metal sections for maximum strength . . . and tie ribs at flanges for extra resistance to line strains. Straight-through ports minimize turbulence. Complete specifications in your Crane Catalog, or consult your Crane Representative.

WORKING PRESSURES 200 Pounds cold water, oil, or gas, non-shock.

CRANE VALVES

CRANE CO., *General Offices:* 836 S. Michigan Ave., Chicago 5, Ill.
Branches and Wholesalers Serving All Industrial Areas

VALVES • FITTINGS • PIPE • PLUMBING • HEATING

For more details circle NED-553 L3 on enclosed inquiry slip

Quick as a wink measure both AC and DC

WITH A COLUMBIA TONG TEST AMMETER

(Voltage attachment available)

- Both AC and DC ampere readings are made instantly and accurately without breaking circuit or scraping insulation
- Operated with one hand by merely clamping tongs around conductor
- Cannot burn out
- Scale ranges up to 1000 amperes AC or DC
- Voltage attachment reads up to 600 volts
- Five types to accommodate cables up to 3⅞", bus bars up to 4½"x½"

Write for Tong Test Bulletin ND-400

COLUMBIA ELECTRIC MFG. CO.
4525 Hamilton Ave., Cleveland 14, Ohio

For more details circle NED-554 L3 on enclosed inquiry slip

Yes, sir! With these

du Mont *Minute Man*® Keyway Broach Kits

You can cut
keyways from 1/16" to 1"
in bores from 1/4" to 3"
in gears, milling cutters, pulley hubs, collars, couplings, etc., etc.

IN ONE MINUTE
for as little as ONE CENT EACH

CATALOG AND PRICE LIST COUPON

The du MONT CORPORATION, Greenfield, Mass.

Please mail folder and price list D on *Minute Man Keyway Broaches and Kits* to

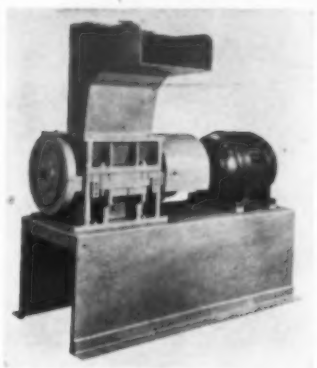
Name.....

Company.....

Address.....

For more details circle NED-555 L3 on enclosed inquiry slip

PLASTICS GRANULATOR reduces heavy parts without sawing



With an 8 x 20-in. throat opening, model 20 plastic parts granulating machine is adapted to heavy duty work, and will granulate the majority of parts without preliminary cutting or bandsawing. Such parts range from cylinder purgings from injection molding machines and bleeder scrap from extrusion machines to heavy cast slabs of acrylic or polystyrene resins. Heavy steel weldments are used in the machine, and seal rings are hardened and ground to prevent abrasion or multilation. Power is supplied by a 40-hp directly-coupled motor, balanced by an extra-heavy flywheel. Made by **Cumberland Engineering Co.,** Dept. N14, P. O. Box 216, Providence, R. I.

For more details circle NED-556 L3 on enclosed inquiry slip

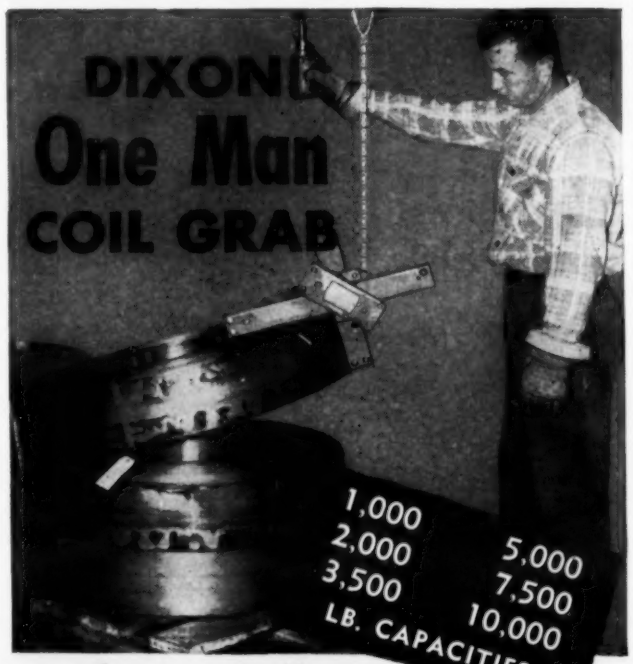
ANTHRACITE BURNER converts boilers to automatic firing

For converting steam or hot water boilers to automatic firing, Fire-Jet burner is said to give at least 15 per cent increase in output. This is due to fact that water is circulated through the burner to boiler. Essentially, unit is a burner installed inside the boiler and is gravity fed by a coal hopper. A standard motor forces air through the burner tuyeres, and also powers the burner oscillator which insures even coal distribution. While primarily designed for rice coal, burner will also operate on any standard grade anthracite. It is reported that device permits boilers to achieve top efficiency within 10 minutes of firing up. Ten standard sizes of the burner are available, with ratings up to 10,350 sq ft of steam and 16,560 sq ft of water. Multiple installations can be made. Made by **Electric Furnace-Man, Inc.,** 400 Furnace St., Emmaus, Pa.

For more details circle NED-557 L3 on enclosed inquiry slip

DO YOU KNOW? "The Care and Maintenance of Steam and Hot Water Unit Heaters" is title of 4-page service guide for users of unit heaters. Just how to service unit heaters to get them ready for the winter heating season is clearly depicted. Write for Bulletin No. 12 from Industrial Unit Heater Association, 2159 Guardian Bldg., Detroit 26, Mich.

For more details circle NED-558 L3 on enclosed inquiry slip



Automatically ADJUSTS TO COIL SIZE

Seven standard models available to handle coils from 1" to 48" wide.

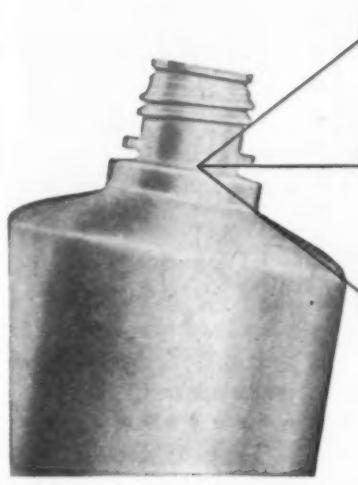
Export Dept.: 306 W. Washington Blvd., Chicago 6, Ill.

DIXON *Automatic Tool, Inc.*

2310 23rd Ave. • ROCKFORD, ILLINOIS

For more details circle NED-559 L3 on enclosed inquiry slip

HANDLE CORROSIVES



- EASILY
- SAFELY
- with PLAXPAK® CARBOYS

Replacement costs drop practically to zero. Expensive accidents due to carboy breakage are eliminated. Employees handle hazardous or expensive chemicals more efficiently. These and many other important advantages are gained with Plaxpak polyethylene carboys. Get the full story by writing for our brochure. Or ask to see a representative for complete details.

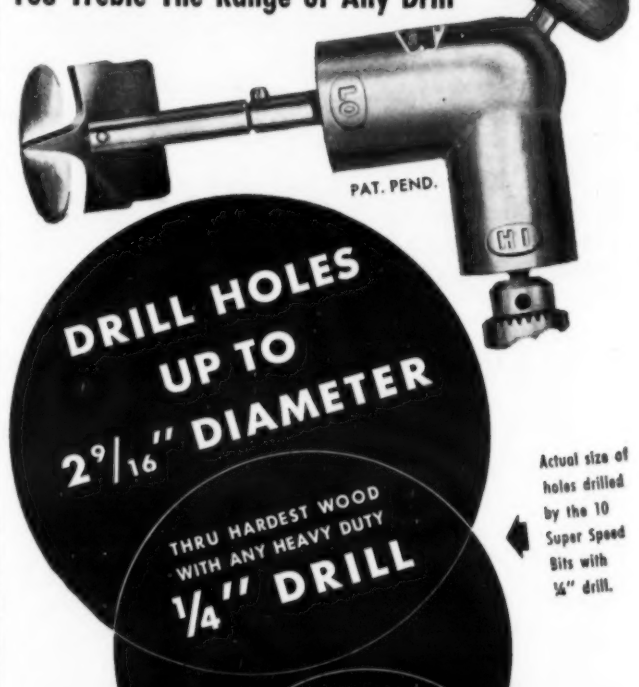
PLAX

PLAX CORPORATION
672 FARMINGTON AVENUE
WEST HARTFORD, CONN.

For more details circle NED-560 L3 on enclosed inquiry slip

WITH THE NEW Korner King and Super Speed BITS

You Treble The Range of Any Drill



DRILL HOLES UP TO 2 9/16" DIAMETER

THRU HARDEST WOOD WITH ANY HEAVY DUTY 1/4" DRILL

Actual size of holes drilled by the 10 Super Speed Bits with ¼" drill.

operates safely with exclusive RCS Torque Release

saves money — cost less than any comparable bits

reduces rpm by half . . . gets 80% more power, or doubles drill's rpm

drills in tight places

extends bits to indefinite length

cutting blades resharpened easily, replaced inexpensively

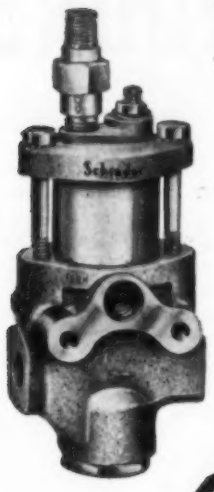
● Learn the whole story about RCS KORNER KING AND RCS SUPER SPEED BITS. This two-speed right angle drill attachment, the low-cost bits, the extensions and adapters, may be ordered separately or as a complete kit in all-metal carrying case.

WRITE DEPT. NE-11 TODAY FOR FULL INFORMATION

RCS TOOL SALES CORPORATION JOLIET, ILLINOIS, U.S.A.

For more details circle NED-561 L3 on enclosed inquiry slip

Schrader Pilot Valves for Remote Control of Air Systems



From any convenient spot, you can actuate air equipment by means of a Schrader Pilot Valve. Simply install in the main supply line at the point of operation, and add a small actuating valve at the point of control.

Pilot valves are available in two-, three- or four-way types, and can be supplied with timers to deliver air from a fraction of a second to as many as desired.

The Schrader catalog gives complete information on pilot valves, as well as the full Schrader line of air operated products. Write for it today.

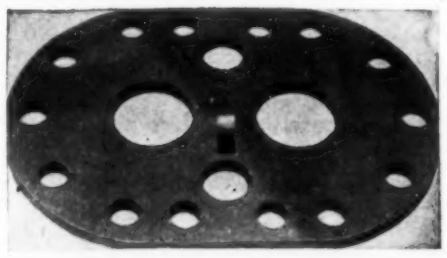
A. SCHRADER'S SON
Division of Scovill Manufacturing Company, Incorporated
459 Vanderbilt Ave., Dept.E-45, Brooklyn 17, N. Y.

For more details circle NED-562 L3 on enclosed inquiry slip

PROMET THE Engineered BRONZE

BEARINGS-BUSHINGS-WEARING PARTS
(machined or rough cast)

Designers of road machinery specify sand-castings of Promet bronze alloys selected for hardness, self-lubrication, and resistance to shock and friction. Manufacturers of road machinery specify Promet because it guarantees that the alloy will be correct for the application, finishes will be to tolerance specified, and delivery will be as scheduled.



Promet # 6-SK Pump Thrust Plate

The American Crucible foundry is one of the most modern in America. A mechanized production line includes jolt squeeze machines, sand conditioners, sand conveyors, shakedown stations, castings conveyors, shot and sand-blasting machines for cleaning castings—equipment which permits the manufacture of a product of unsurpassed quality.

When American Crucible serves your bearing and wearing requirements, you get a money-back guarantee of longer service and lower maintenance cost. Castings to your patterns—any size, shape or section up to 3,000 lbs. Pattern making, designing and machining.

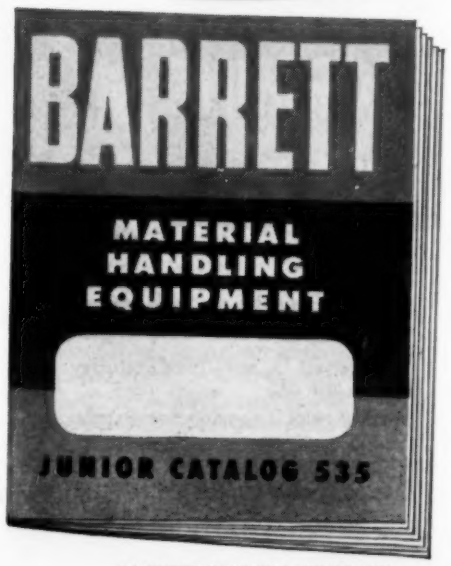
Write today for FREE LITERATURE and service data sheets. Send blueprints, conditions of operation and other data for recommendations and quotations.

THE AMERICAN CRUCIBLE PRODUCTS CO.
1327 OBERLIN AVENUE LORAIN, OHIO, U. S. A.

For more details circle NED-563 L3 on enclosed inquiry slip

IDEAS ON MATERIALS HANDLING PROBLEMS

WRITE FOR 100-PAGE CATALOG 535



A Barrett engineer will help you select the equipment best suited to your needs —no obligation.

BARRETT-CRAVENS COMPANY
4623 S. Western Blvd., Chicago 9, Ill.
Representatives in All Principal Cities
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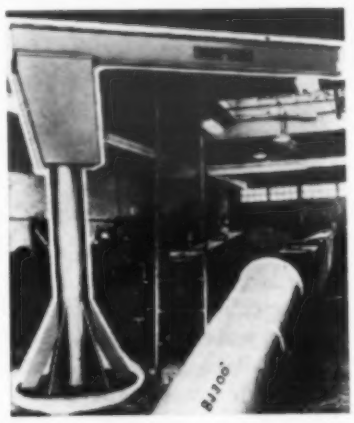
BARRETT
One Man Does More Than 3 or 4 ... with a Barrett

For more details circle NED-564 L3 on enclosed inquiry slip

JIB CRANES
use electric and hand geared hoists



Handling of loads on platforms and docks and servicing, loading and unloading of machines or furnaces are possible applications for the series 300 and 400 jib cranes. Usable with both electric and hand-geared hoists, the cranes have compensating screws for correcting irregularities of erection, normal working load deflections due to load and dead weight or hoist and other circumstances normally requiring shimming. Series 300 (illustrated) is floor plate mounted, has 360-degree rotation and is self-supporting. Series 400 is also self-supporting, has 360-degree rotation and is designed for mounting in concrete. Rotation of both units is on self-aligning radial and thrust roller bearings. Made by **Cleveland Beacon Products Co.**, 2433 Orange Ave., Cleveland 15, O.

For more details circle NED-565 L3 on enclosed inquiry slip

HEAVY-DUTY FLOOR CLEANER
is quickly converted to blower

Heavy duty floor cleaner model 908G is designed for quick conversion of motor unit to powerful blower by removal of filter bag and substitution of blower coupling and guard, provided as standard equipment. Cleaner has 1 hp, 115-v ac/dc motor with ball bearings packed in lubricant. Container capacity is 1.04 bushels of dry dirt, or 10 gal of liquid for wet-pickup. It is made of heavy sheet steel and finished in metallic gray. Casters are soft rubber tread with top swivel bearings. Filter has 1625 sq in. of filtering area. Also furnished is 22-ft three-conductor rubber covered cord with grounding wire, plus standard set of cleaning tools. Made by **Premier Co.**, 754 Woodlawn Ave., St. Paul 1, Minn.

For more details circle NED-566 L3 on enclosed inquiry slip

DO YOU KNOW? Selection of belt-center distance for fan and compressor installations, determination of horizontal distances between shaft centers, and checking equipment clearances is simplified with the Korfund Belt-Center Distance Calculator. Included are fan and motor data. Offered free by Korfund Co., 48-35P 32nd Pl., Long Island City 1, N. Y.

For more details circle NED-567 L3 on enclosed inquiry slip

For more details circle NED-568 L3 on enclosed inquiry slip

THIS is the **BASIC IDEA** behind the efficient operation of STA-WARM'S Compound Heating Tanks

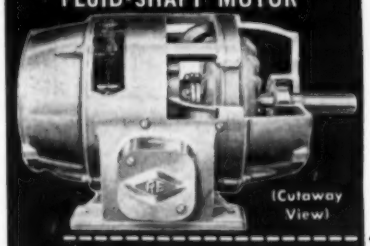
Sta-Warm ELECTRIC CO.
130 N. CHESTNUT ST., RAVENNA, OHIO

For more details circle NED-569 L3 on enclosed inquiry slip

motor design problem?

...maybe one of these **REULAND** *"specials" will solve it!*

FLUID-SHAFT MOTOR



Motor with *internal* fluid coupling. Provides smooth load acceleration. More compact than separate motor and coupling. *Assures perfect alignment.* Will start heavier loads than standard motors of same horsepower. Used on cranes, conveyors, etc.

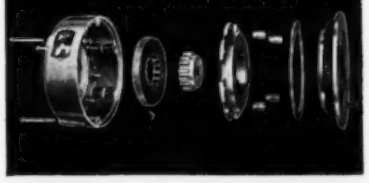
FLUID-SHAFT MOTOREDUCER

Consists of Reuland Fluid-Shaft motor and gear reducer as one compact unit. Converts the motor's conventional high speed into a slow speed, high torque output. Provides smooth starts. Prevents equipment jamming. Used on cranes, hoists, car pullers, etc.

RIGHT-ANGLE MOTOREDUCER

Consists of Reuland motor and worm gear reducer. Provides unlimited mounting versatility. Permits use of 1 high speed and 2 slow speed power-take-offs, if desired. Ideal for designing into cramped quarters. Also available with Fluid-Shaft drive motor.

THROUGH-SHAFT MAGNETIC BRAKE



"Doughnut" type design allows extension of shaft entirely through brake. Permits use of TWO output shafts per motor. Can be mounted on the input or output shafts (or both) of Fluid-Shaft motors and motoreducers. Only 6 major parts...self adjusting... half usual length.

OVER 600 SPECIAL ELECTRIC MOTOR DESIGNS

Whatever your drive problems may be, there is a good chance that the Reuland "library of specials" contains a unit that is already tailored to your needs. Its availability will save development work and put you in production faster.

Write today, outlining your particular problem. No obligation, of course.

REULAND ELECTRIC COMPANY

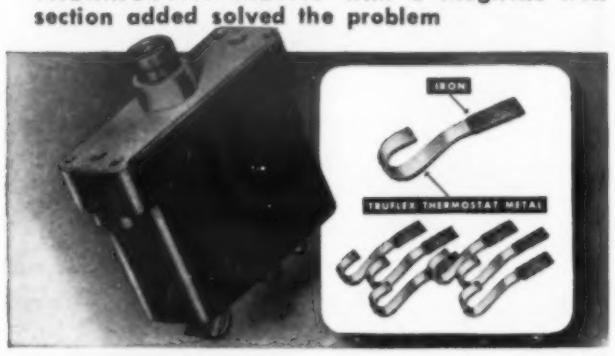
WESTERN DIVISION—Alhambra, Calif. • EASTERN DIVISION—Howell, Mich.

DISTRIBUTORS IN ALL PRINCIPAL CITIES

For more details circle NED-570 L3 on enclosed inquiry slip

PROBLEM: Obtain a Thermostat Element capable of quickly interrupting a circuit on heavy overloads before the Element becomes dangerously overheated

SOLUTION: General Plate TRUFLEX® THERMOSTAT METAL with a Magnetic Iron section added solved the problem



A leading manufacturer of Aircraft Circuit Breakers had the problem of obtaining a thermostat element that would interrupt a circuit running up to several thousand amperes. Previous elements didn't move fast enough and became overheated and destroyed on heavy overloads.

General Plate provided the solution with a TRUFLEX thermostat element with a magnetic iron section, butt welded to one end, which provided magnetic assistance to accelerate operation.

General Plate fabricates complete TRUFLEX thermostat metal elements and assemblies for installation in your products. You get accurate and consistent performance because every order comes to you an exact duplicate of the original . . . consistently uniform in tolerances, temperature reaction and performance, thus preventing rejects and costly adjustments in assembly.

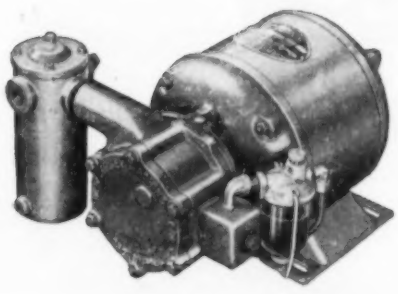
General Plate TRUFLEX thermostat metal assemblies are made to meet your specific requirements for temperature range, electrical resistance, corrosion resistance, etc. If you prefer to make your own elements, General Plate will produce TRUFLEX thermostat metal strip to your material specifications. Write for TRUFLEX thermostat metal catalog and engineering assistance.

METALS & CONTROLS CORPORATION
GENERAL PLATE DIVISION
811 FOREST STREET, ATTLEBORO, MASS.

For more details circle NED-571 L3 on enclosed inquiry slip

USE THIS COMPACT MOTOAIR PUMP FOR VACUUM

AVAILABLE IN SEVERAL SIZES



NO BELTS • NO COUPLING • DIRECT DRIVE makes it MORE COMPACT!

No other pump packs such dependable vacuum in so compact a space. It's complete with motor. Plug in and use. Visible, circulating lubrication.

Write for Catalog—

823

NEW JERSEY MACHINE Corporation

FACTORY SALES AND SERVICE BRANCHES
CHICAGO CINCINNATI LOS ANGELES

1550 WILLOW AVENUE, HOBOKEN, N. J.

For more details circle NED-572 L3 on enclosed inquiry slip

the answer to small hand hole problems!

Series 900

Tube Expanders

. . . for Rolling and Flaring Tubes in Super-Heater Units. Series 900 NOW made for tubes as small as 15/16" inside diameter.

Expander, Mandrel and Joint in one compact unit, assures easy entry and withdrawal.

Series 940

See Your Dealer, or Write Us Today!

See us in Booth-S-12—Chemical Industries Exposition

THE GUSTAV WIEDEKE COMPANY
DAYTON 1, OHIO

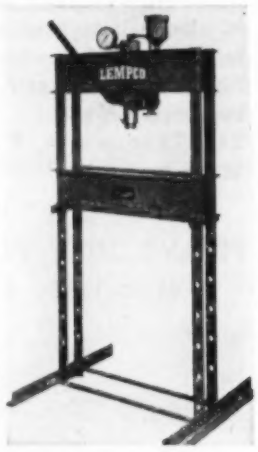
For more details circle NED-573 L3 on enclosed inquiry slip

AIR TOOL LUBRICATOR operates in any position

Incorporating a wick filter which atomizes the oil, prevents clogging and allows efficient operation in any position, this oiler for air tool lubrication can be attached directly to the tool. Filler cap has a window for inspecting oil level, wick adjustment being made through the filler cap opening. Oils from light machine to heavy rock drill types can be used. Half and pint reservoir sizes are available, the half-pint unit weighing under 2½ lb. Made by **Wright Power Saw & Tool Corp.**, 294 Longbrook Ave., Stratford, Conn.

For more details circle NED-574 L3 on enclosed inquiry slip

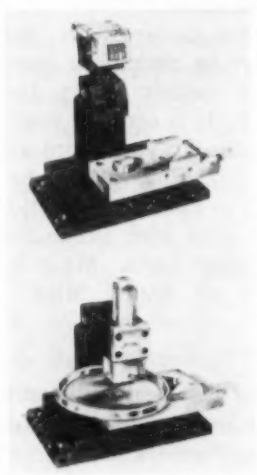
HYDRAULIC FRAME PRESS has two-speed ram



Two-speed ram travel and ram pressure release valve are features of 25-ton model 521 hydraulic frame press. Simplicity of construction, plus press's versatility makes it highly practical in repair shops for work on universal joint pins, axle bearings, bushings, timing gears and ring gear riveting as well as in maintenance work. Press is made by **Lempco Products, Inc.**, 5498 Dunham Rd., Bedford, O.

For more details circle NED-575 L3 on enclosed inquiry slip

HAND EMBOSSING FIXTURE requires only male type



Size and content coding on paint can lids or similar tops for cans up to 1-gal size can be done by this SF-100-AE hand embossing fixture. Only male type or characters are needed. Plastic matrix serves as female die and can be used over and over without changing as different stamping characters are used. Type holder is set on swivel to facilitate changing of type. Spring return lifts holder and type off can lid as soon as lid is embossed. If desired, type holder can be made for one or more lines of lettering. A gage centers marking. Made by **M. E. Cunningham Co.**, 1055 Chateau St., Pittsburgh 33, Pa.

For more details circle NED-576 L3 on enclosed inquiry slip

NEW TURNTABLE DOWNDRAFT dust collecting benches by WOLVERINE

Revolving turntable allows the operator to work all around the casting without stop for re-positioning . . . an addition to the standard Wolverine rectangular benches — Provides: • Better dust collection due to higher velocity. • New design, permitting exhaust outdoors where required, or return to room if desired. • Standard velocity, 300 feet per minute, and, if application requires, higher velocities available up to 800 feet per minute. • Ideal system for collecting dust from grinding, polishing and sanding operations.

Heavy duty industrial viscous filters in rear compartment remove dust from air stream and axial flow fan in top of rear compartment discharges vertically back into the room or outdoors if required.

Write for descriptive bulletin, Dept. N

WOLVERINE EQUIPMENT CO.
31 MAIN ST., CAMBRIDGE 42, MASS.

For more details circle NED-577 L3 on enclosed inquiry slip

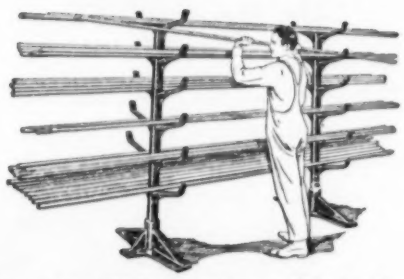
DON'T WASTE MAN HOURS

Get more productive hours by reducing lost time in handling materials. One man, with the aid of a "Canton" Portable Crane, can lift and transport up to 3 tons of material to any part of the plant! For more details on saving man-hours, write today for Bulletin 51.

The HILL ACME CO.
"CANTON" DIVISION 1201 W. 65TH ST., CLEVELAND 2, OHIO

For more details circle NED-578 L3 on enclosed inquiry slip

for EFFICIENT HANDLING and ORDERLY STORAGE



You save time, both in storing and in issuing, when you use Brown Sectional Racks. Open sides speed handling. Complete visibility permits quick selection to save waiting mechanics time.

Maximum flexibility in arrangement is possible because each Brown Rack is independent and self-contained, need not be bolted to floor. Easily relocated. Systemized storage with Brown Racks promotes good housekeeping, cleanliness.

All iron and steel construction, can't burn, bend, sag or warp. Never wear out.

Get these values now! Write for complete specifications and prices on wide range of models and sizes. Brown Engineering Co. 129 N. Third St., Reading, Pa.

BROWN QUICK-SERVE RACKS

For more details circle NED-579 L3 on enclosed inquiry slip

PRECISION INTERNAL FORMING with a

MAXWELL RECESS-O-MATIC

Fast set-up . . . repetitive accuracy . . . maximum capacity and throw . . . these features make the **RECESS-O-MATIC** tool superior for precision internal forming operations. Designed especially for use on multiple-spindle automatics, this tool can be attached quickly without need for special cams.

The **RECESS-O-MATIC** is available in three sizes having maximum capacities of 2, 3 and 4 inches. Recessing stroke ranges from ¼ to ½-inch.

Write for catalog. (Model DB)

894-MC

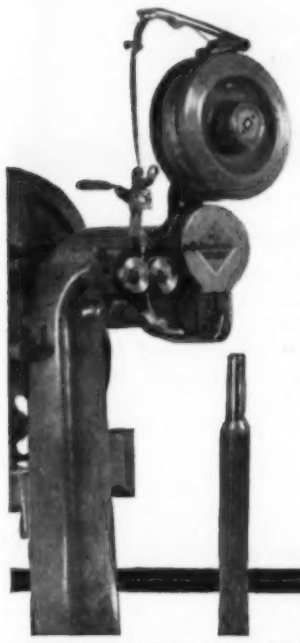
THE MAXWELL COMPANY
390 BROADWAY • BEDFORD, OHIO

For more details circle NED-580 L3 on enclosed inquiry slip

Add an Acme Steel 25-pound coil holder

to your present wire stitching equipment

Stitch 2½ times longer without stopping



The rugged new Acme Steel 25-pound coil holder means less down time on your wire stitching operations, both because it holds 2½ times as much wire as the conventional 10-pound coil holder, and because it's easier and faster to load. Features are tangle-free wire feed and positive shoe-type brake. For details, write Acme Steel Products Division, Dept. NED 113, Acme Steel Company, 2840 Archer Avenue, Chicago 8, Illinois.

STITCH IT...STRAP IT... SHIP IT...SAFELY!

ACME STEEL

For more details circle **NED-581 L3** on enclosed inquiry slip

SEL-LOK SPRING PINS

won't vibrate loose

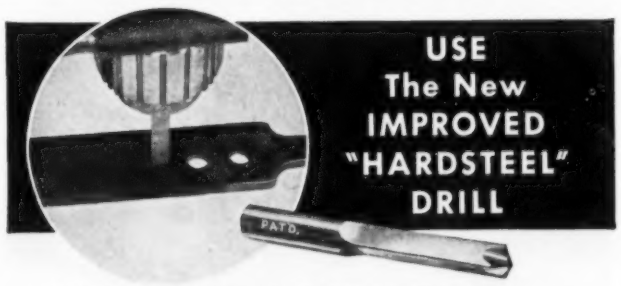
Use them as hinge pins, use them to fasten gears, pulleys and sheaves to steel shafting, use them to replace keys, keyways and cotter pins—they won't work loose. For complete information, write STANDARD PRESSED STEEL Co., Jenkintown 24, Pa.

Sel-lok spring pins are shock resistant and vibration proof • eliminate expensive reaming operations • replace tapered or grooved pins • easy to insert and remove • reusable • accurate in diameter and length • reduce installation costs • lighter in weight and as strong as a solid cold-rolled steel pin of the same diameter • available in a full range of lengths and diameters

SEL-LOK SPRING PIN DIVISION **SPS** JENKINTOWN PENNSYLVANIA

For more details circle **NED-582 L3** on enclosed inquiry slip

Drill Hardened Steels without Annealing—



With the new, improved "HARDSTEEL" Drill, you can do accurate, smooth drilling, countersinking, counterboring and reaming in steels hardened by any process without first annealing the work. And they work with equal ease on work-hardening steels and high carbon—high chrome steels of any degree of hardness.

"HARDSTEEL" Drills fit standard drill presses. They save time and reduce rejects. They permit engineering changes requiring additional drilling after hardening. And parts drilled after hardening always match at assembly.

Write for a copy of the "HARDSTEEL" Operators Manual showing how "HARDSTEEL" drills are cutting costs in thousands of plants.

You Harden It—We'll Drill It— With "HARDSTEEL"

BLACK DRILL COMPANY, INC.
1380 East 222nd St. • Cleveland 17, Ohio

Also makers of— BLACK DRILLING UNITS—AUTOMATIC, SELF-CONTAINED—FOR COST-CUTTING PRODUCTION ON ALL MATERIALS *Write for information*

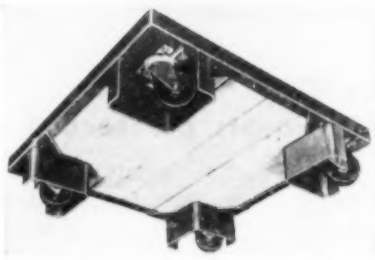
For more details circle **NED-583 L3** on enclosed inquiry slip

INDUSTRIAL PUMP delivers 7 gpm at 50 psi

Sealed, permanently lubricated ball bearings of model 4300 industrial pump, which features scoop rotor and rubber roller type vanes, permit use for continuous duty service. Pressed fit of stainless steel shaft into inner ball bearing race to restrict lateral movement of the rotor minimizes end thrust wear within pump. Impeller is self-lubricated by water and delivers about 7 gpm at 50 psi and 1750 rpm. Pressure range is from 0 to 75 psi. Unit is furnished with ¾-in. ports, and recommended speeds are up to 1800 rpm. Made by **Hypro Engineering, Inc.**, Dept. NED, 404 N. Washington Ave., Minneapolis 1, Minn.

For more details circle **NED-584 L3** on enclosed inquiry slip

HEAVY-DUTY DOLLY is fitted with shielded casters



Having casters fitted with guards to protect them when it is lifted by a fork truck, this heavy-duty dolly is available with aluminum, magnesium or hardwood surfaces as required. Plungers are used so that swiveling casters can be locked in any position, and general construction is combination of aluminum and magnesium for lightness and strength. Made by **Crescent Metal Products, Inc.**, Dept. NED, 18901 St. Clair Ave., Cleveland 10, O.

For more details circle **NED-585 L3** on enclosed inquiry slip

SPOT LAMPS for indoor or outdoor high mounting

Weatherproof and made to fit medium or mogul sockets, Hi-spot narrow beam lamps are designed for lighting indoor and outdoor areas from unusually great distances. Beam provides uniform illumination of high intensity. They have inside silver reflecting surfaces and are available in wattages of 300 and 500. Made by **Radiant Lamp Corp.**, 300 Jelliff Ave., Newark 8, N. J.

For more details circle **NED-586 L3** on enclosed inquiry slip

FLOOR TO FLOOR TRANSFER MADE EASY WITH THE *Unitized* SLIDE BED* INCLINE CONVEYOR

SPEEDS UP PRODUCTION

SAVES TIME!

SAVES MONEY!

Conveys *smoothly** up or down a 28° angle. Has ball bearing adjustable hump rollers and snub assembly. All bearings are grease sealed. Fully adjustable at all outside points to permit easy belt alignment. Powered by the economical Pakage Power Unit.

FREE!

MAIL THIS COUPON TODAY FOR DETAILS

ISLAND EQUIPMENT CORP. Dept. NE11
27-01 Bridge Plaza North
Long Island City 1, N. Y.

Please send me full details on the Unitized Slide Bed INCLINE CONVEYOR.

COMPANY.....
NAME.....
ADDRESS.....
CITY..... STATE.....

For more details circle **NED-587 L3** on enclosed inquiry slip

RESIMENT®

FURANE RESIN CEMENT FOR CORROSION RESISTANCE

- **RESISTS CORROSION—** Acids, Alkalies, Solvents
- **SETS PERFECTLY—** Summer or Winter
- **WITHSTANDS HEAT—** Temperatures up to 375° F.

Highly efficient as a mortar for corrosion-resistant masonry, Resiment is low in porosity and high in compressive and tensile strength. It is supplied in the form of powder and liquid, in proper combinations, for mixing at time of use. Sets quickly by internal chemical reaction.

Write for Folder and Prices

DELRAC CORPORATION
133 Mill St. Watertown, N. Y.

For more details circle **NED-588 L3** on enclosed inquiry slip

THERE'S A STURDY BURKE FOR EVERY PURPOSE

Thousands of efficient, low cost Burke Bench Millers are proving their superiority in Tool, Development and School Shops and a wide variety of mass production operations.

Send for complete data on models attachments, accessories and suggestions for putting Burke's to work for your profit.

THE U. S.-BURKE MACHINE TOOL DIV.
Brotherton Road 2, Cincinnati 27, Ohio

For more details circle **NED-589 L3** on enclosed inquiry slip

MAXAW 800
magic pivot does it!

HEAVY DUTY—ALL BALL AND ROLLER BEARING—INDUSTRIAL QUALITY

$89.50

Out-performs saws selling up to $145!

Here's the saw that bears down with that *extra cushion* of power and sings through the tougher cutting jobs in maintenance and industrial sawing. Cuts full 2-in. rough or semi-dressed lumber *with blade to spare*—2¾" on a straight cut, and 2 9/32" on a 45° bevel. **magic • pivot** does it!

And **magic • pivot** cuts down saw weight... MAXAW 800 weighs only 14 lbs.—⅓ less than conventional 8-in. saws... puts less handicap on men and muscles. Get all the facts—do more—save more—with **magic • pivot** MAXAW 800!

Free Pamphlet!—Find out what **magic • pivot** can do for you. Send for Pamphlet N-113.

Cummins-Chicago Corp.
DIVISIONS
Cummins INDUSTRIALS • Cummins Portable Tools
4740 N. Ravenswood Ave. • Chicago 40, Illinois
IN CANADA: 334 Lauder Ave. Toronto

For more details circle **NED-590 L3** on enclosed inquiry slip

How a 'Sexauer' Easy-Tite faucet washer costing pennies can save you $115.22 a year!

A tiny, 1/32" faucet leak wastes 95,040 gallons—*$24.14* worth*—of water yearly.

Hot water leakage is even costlier... Fuel waste adds upward to *$91.08*** more to the loss. Total down the drain: *$115.22.*

And this is the dollar loss caused by only *one* pinpoint leak!

Fuel Waste		Water Waste	Total Waste
Oil (792 gals.)	**$91.08	$24.14	$115.22
Coal (9,879 lbs.)	88.91	24.14	113.05
Gas (84,411 cu. ft.)	84.81	24.14	108.95

*Water costs (figured at $1.90 for 1,000 cu. ft.) authenticated by Hackensack Water Co. **Fuel costs authenticated by American Gas Association.

Save money; cut costs; stop leaks with dependable 'Sexauer' Easy-Tite faucet washers.

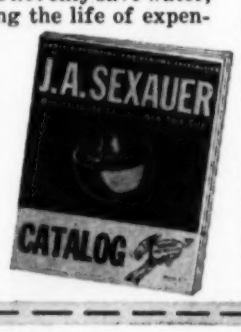
Built like a tire with fibreglas reinforcement

Easy-Tite faucet washers are made of a special du Pont product, instead of rubber, and reinforced with fibreglas. The result is a washer that resists the closing squeeze that splits and mushes ordinary washers. And Easy-Tites withstand destructive heat (up to 300° F. by test). These features explain why *'Sexauer' Easy-Tites outwear ordinary faucet washers 6 to 1!*

By avoiding labor on those 5 additional repairs, Easy-Tites cut today's high maintenance costs 83⅓%! But Easy-Tites not only save water, fuel, labor; they also prolong the life of expensive fixtures.

FREE CATALOG—Easy-Tite faucet washers are just part of the line of over 3000 'Sexauer' Triple-Wear plumbing repairs parts and patented precision tools.

Get complete information on Easy-Tites and other cost-cutting 'Sexauer' materials. Send for our FREE, new 118 page Catalog G. Fill in and mail the coupon today.



J. A. Sexauer Mfg. Co., Inc. Dept. AU-113
2503-05 Third Ave., New York 51, N. Y.

Gentlemen: *Please send me a copy of your FREE, new 118 page Catalog G.*

My name.....Title.....

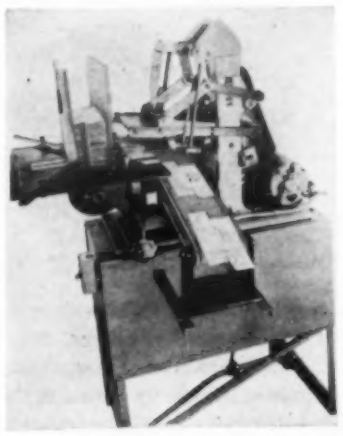
Company or Institution.....

City.....Zone.....State.....

SEXAUER
WORLD'S LEADING SPECIALISTS IN PLUMBING AND HEATING REPAIR PARTS

For more details circle **NED-591 L3** on enclosed inquiry slip

MARKING MACHINE
80 imprints per minute possible

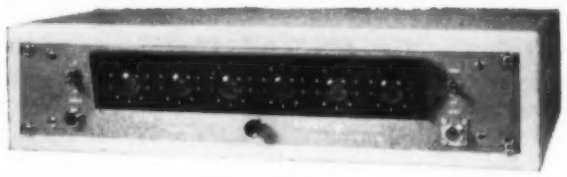


Flat folding boxes, corrugated cartons, plastic panels, abrasive stones and other flat objects up to ¾-in. thick can be handled by model 45AE marking machine. Objects to be marked are automatically fed into machine, printed and ejected at rate of 80 imprints per minute. Ease of operation, quick type changing, adjustability for varying sizes of items and quick-drying inks are features. Adjustable side gages on feed table accommodate objects up to 5 x 14 in. Maximum imprint area is 2 5/16 by 6 11/16 in., and imprint can be located anywhere in 5 x 11-in. area. Unit is mounted on floor stand and is powered by 1/6-hp motor. Made by **Markem Machine Co.,** Dept. C, 150 Congress St., Keene 40, N. H.

For more details circle **NED-592 L3** on enclosed inquiry slip

ELECTRONIC COUNTER
for up to 5000 counts per second

Usuable as a counter or as a fast push-button resettable register, model 162A Glow Transfer counter features maximum capacity of 1,000,000 counts with



speed range of 0 to 5000 counts per second. All counting, indication, and transfer is done within cold-cathode glow transfer tubes. Tubes have bright red neon glows opposite numbered circular spacings (0-9) to show accumulated count. Two units can be run in cascade, one feeding millions into the other. Jack in rear of chassis provides for remote control connection. Instrument will accept positive or negative pulses or sine waves of 4 to 60 v, depending on control setting. Made by **Atomic Instrument Co.,** 86 Massachusetts Ave., Cambridge 39, Mass.

For more details circle **NED-593 L3** on enclosed inquiry slip

DO YOU KNOW? Those bothersome loud noises created by trucks slowing down or going down grades are eliminated by a "depopping" device which is built into the carburetor of heavy duty Ford trucks. Objectionable exhaust noises cannot occur when throttle is in idle position. Developed by Ford Motor Co., Ford Div., P. O. Box 638, Dearborn, Mich.

For more details circle **NED-594 L3** on enclosed inquiry slip

POR-ROK
(POUR ROCK)

Fast Setting Cement

PERMANENTLY ANCHORS BOLTS IN CONCRETE WITHIN 30 MINUTES!

Securely fastening machinery, hand rails, seats, fixtures or any type of equipment to concrete by means of anchor bolts can now be done quickly, easily and safely with Por-Rok Quick Setting Cement.

Por-Rok successfully replaces lead and sulphur, and costs considerably less. Applied cold, there is no heating hazard. Simply mix Por-Rok powder with water and pour around bolt. Within 30 minutes the cement sets hard and the bolt is anchored permanently.

Por-Rok also makes quick, lasting repairs to holes and breaks in concrete floors with little or no interruption to normal traffic. It is self-bonding, self-leveling, oil-resistant, does not shrink. Compression strength of 4500 lbs. p.s.i. in one hour GUARANTEED.

For complete information—without obligation—write

THE HALLEMITE MFG. CO.
2452 WEST 25th ST. • CLEVELAND 13, OHIO

For more details circle **NED-595 L3** on enclosed inquiry slip

Now Ready!

NEW CATALOG ON TUTHILL MODEL CK HIGH PRESSURE PUMPS

For Designers

For Production and Maintenance Men

Write for this new Tuthill Model CK Catalog No. 103.

It's a helpful guide to selecting the right pump for hydraulic service where the operating pressure does not exceed 400 p.s.i Included is complete data on mechanically-sealed units and automatic reversing types in capacities from 5 to 200 g.p.m.

A copy is yours for the asking.

TUTHILL PUMP COMPANY
Dependable Rotary Pumps since 1927
939 East 95th Street, Chicago 19, Illinois

Canadian Affiliate: Ingersoll Machine & Tool Company, Ltd. Ingersoll, Ontario, Canada

For more details circle **NED-596 L3** on enclosed inquiry slip

"most lathe per dollar invested"
— Laurence Carl

exclusive design features put

CLAUSING 6300
12" HEAVY DUTY PRECISION LATHES
in a class by themselves

On any basis of comparison, ATLAS-CLAUSING 6300 Series are standout values for efficient 24-hour production . . . tool room or research work. 8 speeds, 50 to 1300 RPM — 12¾" swing over bed, 7½" over saddle, 24" — 36" — 48" between centers — headstock, apron, and quick change gears run in baths of oil. Get all the facts from your ATLAS-CLAUSING Distributor.

"The ATLAS-CLAUSING 6300 lathe is the most lathe per dollar invested available within its size range. Because of its in-built accuracy we are able to move spindle and nose fixtures from one lathe to another without affecting the accuracy of the product. It's a fine profit making machine." Signed — Laurence Carl
Carl Manufacturing Company

The heavy, thick-walled grey-iron headstock is fully enclosed and all moving parts run in a pumped bath of oil. Spindle is forged, precision-ground steel with 1⅜" bore and 1" collet capacity . . . turns on heavy duty Timken precision tapered roller bearings. Hardened and ground spindle nose L-00 is tapered key-locked type. Spindle can be reversed without danger of the chucks coming off.

Drive is underneath, with spindle pulley mounted "outboard" — replacing belts is a quick, easy job. Dual A-belt drive assures full transmission of power.

Quick-change mechanism is enclosed . . . gears and shafts run in bath of oil. Provides instant selection of 48 threads or feeds. Feeds from .00065" to .036" per revolution of spindle, and right and left hand threads from 4 to 224.

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LATHES • DRILL PRESSES • SHAPERS • MILLING MACHINES

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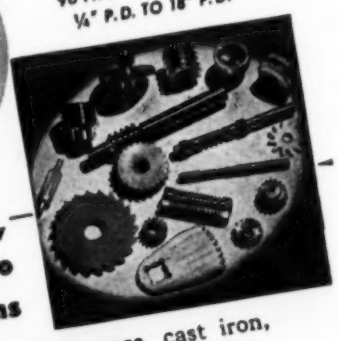
Abart GEARS

96 PITCH TO 5/7 D.P.
¼" P.D. TO 18" P.D.



QUALITY GEARS, precision-cut to your specifications

Available in steel, brass, bronze, cast iron, any metal and any non-metallic gear material. All gears are custom cut to specifications.

Spur Gears • Bevel Gears • Worms • Worm Wheels • Helical and Spiral Gears • Internal Gears • Sprockets • Finishing Machine Racks

Send blueprints and specifications (or samples) for quotations on above type gears, worm and worm wheels, or sprockets—any quantity.

Abart GEAR & MACHINE CO.
4826 WEST 16th STREET • CHICAGO 50, ILLINOIS
Mfrs. of Gears and Speed Reducers • Bishop 2-2524

For more details circle **NED-598 L3** on enclosed inquiry slip

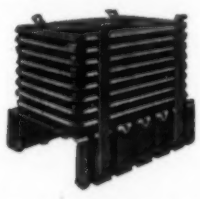
NEW ADJUSTABLE DRILL JIG
eliminates layout; cuts drilling time

Used for drilling holes through round stock and hex stock from ¼" to 2" and cap screws from ¼" to 1¼", the new Mathewson Adjustable Drill Jig eliminates layout and can cut drilling time on small lots to a fraction. And it eliminates the costs of special jigs for larger quantities. Holes for cotter pins, set screws, drive pins for bayonet joints, oil holes in tubular sections, and wiring holes in cap screws, are all typical of the operation that can be done more economically with this jig. Hole diameters range from .052" to .531", using your A.S.A. standard slip bushings. The hardened V-block has two 60-degree V's for centering round or hexagonal stock, one for ¼" to 21/32" diameter, one for 21/32" to 2" diameter. Adjustable stop for locating work longitudinally for drilling any distance from end, may be used on either side. Adjustable bushing carriers hold slip bushings and clamp work securely. Jig highly successful in permitting use of inexperienced drill operators. For circular write to: **Mathewson Machine Works,** 22 Hancock St., Quincy, Mass. *Advt.*

▲ For more details circle **NED-599 L3** on enclosed inquiry slip ▲

Type PB-650 box and platform units with sliding end door.

Preferred... THROUGHOUT INDUSTRY



Type PB-120L box and platform.

Republic STEEL BOXES and SKIDS

Type B-80C box unit equipped for crane handling; corrugated bottom.

● Designed to give maximum strength and rigidity, Republic Steel Boxes and Skids are preferred throughout industry for their ability to carry the load and keep things moving. Specify "Republic" when you want the best in steel boxes and skids.

Write for illustrated catalog.

PRESSED STEEL DIVISION
REPUBLIC STEEL CORPORATION
6206 TRUSCON AVE. • CLEVELAND 27, OHIO

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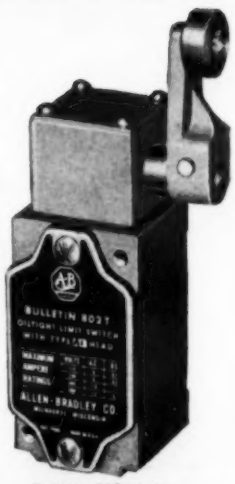
OILTIGHT LIMIT SWITCHES

● Here is a new line of remarkably compact Allen-Bradley oiltight limit switches . . . streamlined for fine appearance and built for millions of failure free operations. The operating heads of these limit switches may be attached to the switch body in four definite locations, each 90 degrees apart. A large selection of pushrods, lever arms, and other actuating mechanisms is available. The name plate cover has a synthetic rubber gasket to exclude oil. Write for complete information.

Allen-Bradley Co.
1334 S. Second Street
Milwaukee 4, Wis.

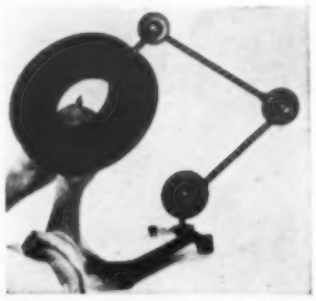


Bulletin 802 Limit Switch with roller lever.

ALLEN-BRADLEY QUALITY LIMIT SWITCHES

▲ For more details circle **NED-601 L3** on enclosed inquiry slip ▲

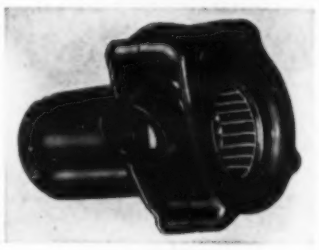
INSPECTION LAMP
has circular lamp and magnifier



This inspection lamp, called the Stratoliner Deluxe, incorporates a circular fluorescent lamp recessed in a crackle finish black shield and a 4½-in. diameter circular magnifying lens. Lens is a plano-convex 9-in. focal length unit. Inspection head is mounted on a three section pivoted flexible arm and a heavy base. Made by **Stratoseal Mfg. Co.,** Dept. NED, 3039 W. Fullerton Ave., Chicago 47, Ill.

▲ For more details circle **NED-602 L3** on enclosed inquiry slip ▲

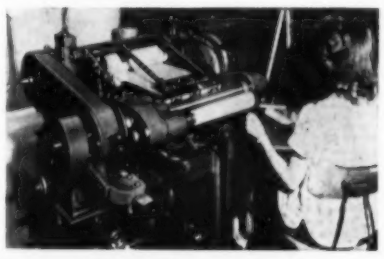
SUB-FRACTIONAL MOTOR
operates over 50 to 800 cycle range



Powered by 115-v variable frequency supply, type A15BF-15 sub-fractional horsepower motor will operate over entire frequency range from 50 to 800 cycles. Input is 20 w at 50 cycles, 30 w at 400 cycles and 60 w at 800 cycles. Rated speeds are 3000 rpm at 50 and 400 cycles, 2800 rpm at 800 cycles. Available for two and three-phase operation as well as single phase operation, motor is protected against humidity and fungus. It mounts in any position, meets all AN specifications, uses single winding, has four leads, is reversible and can be supplied with or without fan or blower. Motor is shown with blower attached. Made by **Air Marine Motors Inc.,** Dept. N200, 3939 Merrick Rd., Seaford, L. I., N. Y.

▲ For more details circle **NED-603 L3** on enclosed inquiry slip ▲

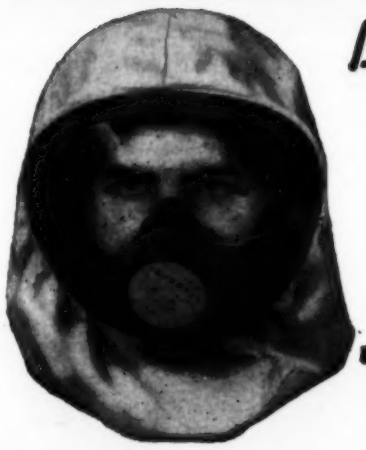
ROLL WINDER
for continuous winding



Continuous winding of small diameter rolls of paper and similar materials is possible with the Crystal-Dilts model CD-12 winder, shown winding 2¼-in. diameter rolls of 12-in. wide waxed paper at 1000 fpm. As the turret continuously rotates the high speed spindles, the operator removes a finished roll and loads the new core while the machine is winding a new roll. Cut-off is after a preset number of feet of material is wound on each roll. Made by **Black-Clawson Co.,** Dilts Machine Works Div., N. First St., Fulton, N. Y.

▲ For more details circle **NED-604 L3** on enclosed inquiry slip ▲

SAFETY EQUIPMENT FOR ALL INDUSTRIES



Broad Vision DUST AND SPRAY HOOD

WEIGHS ONLY 9 OUNCES
Patent No. 2537265

LIGHTWEIGHT CHAMPION — proven in operation — for the many maintenance and production jobs calling for respiratory protection and full coverage for the face and head. Light. Comfortable. Efficient. Unobstructed vision in all directions. No interference with work to be performed.

Write for Bulletin No. 42

IPCO *Safety Equipment for all Industries*
INDUSTRIAL PRODUCTS COMPANY
2807 N. FOURTH STREET • PHILADELPHIA 33, PA.

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this time-study saves you money!

BUSINESSES SAVE HOURS EACH DAY

Actual time studies taken in hundreds of businesses show that an average of 18 seconds is required to make an "inside" speech contact through the switchboard. With *your own* AMPLICALL "clear line" *internal* communication system —you get *2-second speech contact* within and between departments. AMPLICALL frees busy switchboards for important outside calls —keeps personnel *on the job*, keeps talk terse—saves hours each day for the average business. AMPLICALL saves you money—pays for itself. There is a system to fit your special needs. Get the full facts today!

SEE YOUR PHONE BOOK
For your nearest AMPLICALL specialist, look under "Intercommunication" in your classified phone directory—or write direct for full information.

ELECTRONIC **AMPLICALL** INTERCOMMUNICATION

RAULAND-BORG CORPORATION
3523-D Addison Street, Chicago 19, Illinois

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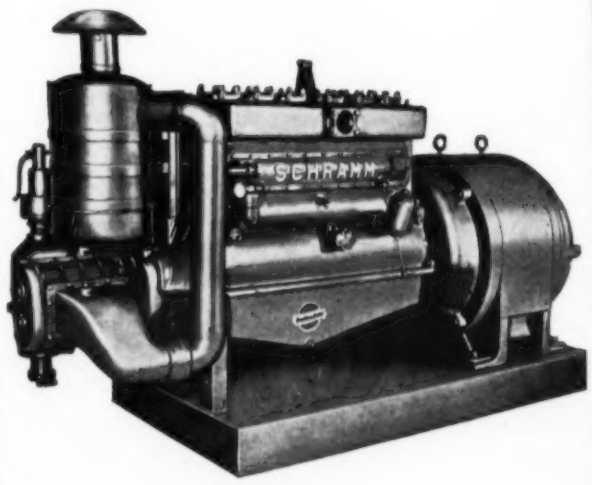
SCHRAMM SUPER-Unistage
Air Compressor Offers Many Advantages • • •



A Super-Charged 600 c.f.m. Air Compressor Designed to meet your Compressor needs for . . .

COMPACTNESS...requires less floor space

UNIT SYSTEM... installed as a series, providing air as needed

VIBRATIONLESS... perfect balance of all moving parts

COMPLETE PACKAGE... no extras—everything one unit!

NO ELABORATE FOUNDATION... sturdy floor needed—that's all!

EASY TO MOVE... air where you need it—and want it!

Additional sizes from ½ to 150 HP

WRITE FOR FREE COPY BULLETIN 5313

SCHRAMM, INC.

The Compressor People

WEST CHESTER • PENNSYLVANIA

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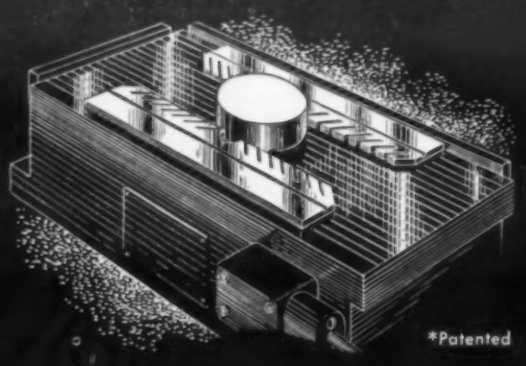
PLASTIC . . . MAGNESIUM . . . FIBRE
MONEL METAL . . . HARD RUBBER
. . . other rigid non-magnetic materials
CAN BE HELD ON MAGNETIC CHUCKS!



*Patented

Magna-Vise* MAKES IT SIMPLE!

Get full details on this revolutionary shop-proved device . . . write Dept. ND-113

Hanchett MAGNA-LOCK CORPORATION
Magna-Lock
Magnetic Chucks and Devices
BIG RAPIDS • MICHIGAN, U. S. A.

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REMOVE STUBBORN GREASE AND DIRT FROM METAL PARTS — EASIER, FASTER, MORE ECONOMICALLY WITH . . .

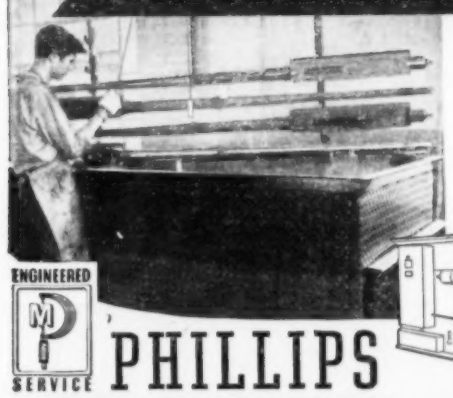

Photo shows 20 mm. guns after degreasing of Cosmoline, prior to modification operations.

ENGINEERED SERVICE PHILLIPS

VAPOR DEGREASERS

SEND FOR YOUR FREE COPY OF NEW ILLUSTRATED DEGREASER BULLETIN!

THE most heavily greased up parts will come clean easier and faster in a Phillips degreaser. High vapor temperature (250.2° F.) not only causes more dissolved grease to run off the metal, but makes for faster degreasing too. Wherever you have parts to clean, large or small, before plating, painting, rustproofing, service and repairwork, etc., you can do it better, faster and more economically with a Phillips degreaser. There's a standard model to meet your needs. Check with Phillips today.

Phillips MANUFACTURING COMPANY
3463 Touhy Ave. • Chicago 45, Illinois
Vapor Degreasers • Solvents • Parts Washers

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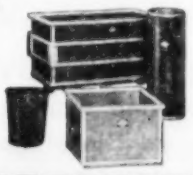
SIMPLIFY YOUR MATERIALS HANDLING

SEND FOR FREE CATALOG OF FIBRE CONTAINERS

Spaulding Fibre Receptacles make storage and handling easier. They're tough, lightweight, shock-proof, resistant to impact and abrasion, will not splinter or corrode. Boxes, barrels, trays and trucks of all sizes, types and weights. Mail coupon today.

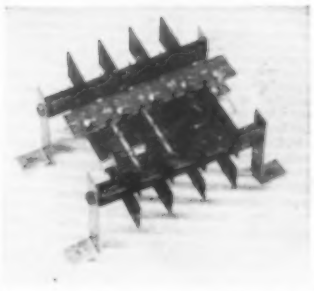


Spaulding

SPAULDING FIBRE COMPANY, INC., Dover, N. H.
Please send me your catalog on Spaulding's complete line of Fibre receptacles.
Name
Firm
Address
City Zone State

For more details circle NED-610 L3 on enclosed inquiry slip

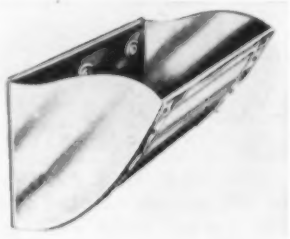
DIFFUSED JUNCTION RECTIFIERS
low forward, high back resistance



With peak inverse voltage ratings of 100, 200, and 300 v, three new diffused junction germanium rectifiers have ½-amp output ratings, with an efficiency of more than 98 per cent. Ambient temperature rating is 55° C. Custom-stacked combinations providing ratings up to tens of amperes in full wave and bridge circuits are made to order for applications such as electronic power supplies, industrial control circuits and machine motor supplies. Made by **General Electric Co.,** Electronics Park, Syracuse 1, N. Y.

For more details circle NED-611 L3 on enclosed inquiry slip

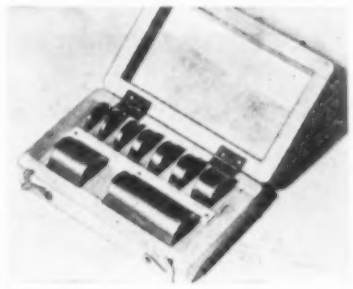
ELEVATOR BUCKETS
made from heavy cold-rolled steel



Made from heavy-gage cold-rolled steel with a double front lip, Hi-Cap line of high speed elevator buckets is suitable for handling any powdered or free-flowing material which is not excessively abrasive. Units perform efficiently at high, medium or low speeds, because body shape provides for maximum load and quick discharge at varying belt speeds. Tapered ends decrease friction on pickup and discharge and allow nesting of buckets for shipping and storage. Made by **Fort Worth Steel & Machinery Co.,** 3650 McCart St., Ft. Worth, Tex.

For more details circle NED-612 L3 on enclosed inquiry slip

CIRCULAR GAGE BLOCKS
set makes 331 combinations



Standard nine-piece set of Swedish circular gage blocks makes up into 331 combinations with an accuracy of fifty millionths of an inch (0.000050-in.). They have 1-in. diameter, and when stacked for vertical dimensions, present a rigid gage which adequately resists any normal amount of side pressure. When wrung together, they form a rigid round bar which can be handled easily in a vertical or horizontal position. Available from **Transocean Trading Co.,** Dept. NE, 6453 Santa Monica Blvd., Los Angeles 38, Calif.

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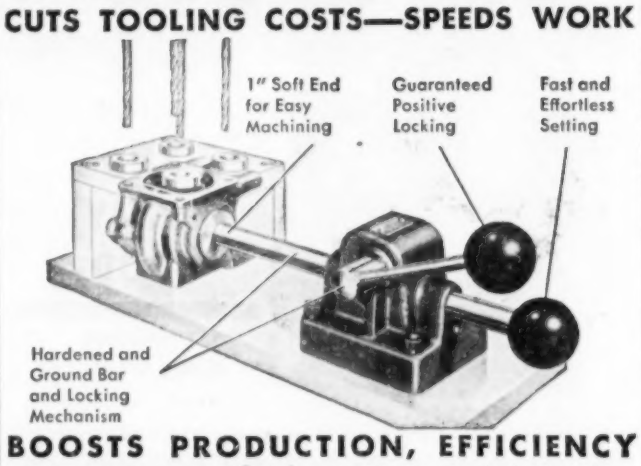
HEINRICH "GRIP-MASTER" FIXTURE LOCK

CUTS TOOLING COSTS—SPEEDS WORK



BOOSTS PRODUCTION, EFFICIENCY

Now—at the request of industry—we offer the new "Grip-Master" Screwless Fixture Lock, applicable for fixtures and jigs used in drilling, milling operations, etc. It incorporates the same high-quality locking mechanism proved by industrial use in the famous "Grip-Master" Screwless Drill Press Vise. Pays for itself quickly by increasing production, cutting tooling costs, etc. See your Dealer, or write for details.

NEW CATALOG FREE
Be sure you have a complete Heinrich Tool Catalog in your files. Your copy will be sent free upon request.

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FOUNDERS NATIONAL MACHINE TOOL CO.
DEPT. 303-L • RACINE, WIS.
DRILL PRESS VISES • FIXTURE LOCKS • NIBBLERS
PUNCHES • ROD CUTTERS

For more details circle NED-614 L3 on enclosed inquiry slip

FASTER, SAFER LOADING

New adjustable hydraulic ramp for loading docks

The new Leva-Dock Ramp travels up or down automatically to keep on the level with vehicle bed. Thus you can quickly load and unload trucks and trailers without using loose plates, bridge ramps or other slow and dangerous methods. This hydraulic ramp compensates 4 ways for varying truck bed heights, out-of-level trucks and spring deflection. An automatic safety device prevents accidents.

The Leva-Dock is powered by a dependable hydraulic jack and power unit. Simple to install, inexpensive to operate.

WRITE FOR CATALOG RE-402

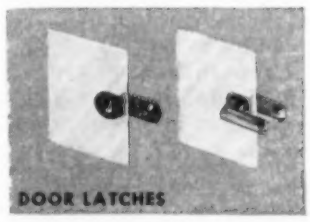
Rotary® Leva-Dock® Ramps

Rotary Lift Co., 1067 Kentucky, Memphis 2, Tenn.

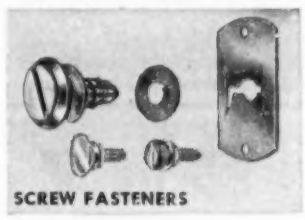
For more details circle NED-615 L3 on enclosed inquiry slip

when you think of fastening think... SOUTHCO®

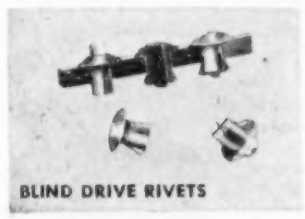
DOOR RETAINING SPRINGS



DOOR LATCHES



SCREW FASTENERS



BLIND DRIVE RIVETS

Here is help in securing the *right* fastener for your particular needs in metal-to-metal and metal-to-wood applications. SOUTHCO engineers work with you to find the standard or special fastener that means lowest overall costs.

Holding power, speed and ease of installation, elimination of special tooling, convenience of use in opening and closing applications . . . each factor involved is analyzed to assure the best fastener at lowest possible cost. When special designs are indicated, the experience and background of SOUTHCO engineers in solving thousands of fastener problems can be of special value to you.

When you are faced with a fastener problem, write SOUTHCO DIV., South Chester Corporation, 1413 Finance Bldg., Philadelphia 2, Pa.

ANCHOR NUTS

ADJUSTABLE PAWL FASTENERS

SOUTHCO® FASTENERS

OFFICES IN PRINCIPAL CITIES...
WHEREVER TWO OR MORE PARTS ARE FASTENED TOGETHER, STANDARD AND SPECIAL DESIGNS FOR IMPROVED PERFORMANCE AND LOWER PRODUCTION COSTS

For more details circle NED-616 L3 on enclosed inquiry slip

For BAKING, CURING, DEHYDRATING, etc.
on an efficient, production line level

CHROMALOX *Electric* **RADIANT PANELS**

Ready to install, 1-ft. x 4-ft. and 2-ft. x 4-ft. pre-engineered Chromalox Panels generate intense, far-infrared energy to meet many processing and finishing heat needs. Tunnels in sizes to fit the work, can be quickly assembled in minimum space. Color-blind far-infrared radiation is absorbed efficiently by all colors and textures, can be controlled precisely, and gives other advantages possible with no other heat source!

Send For Bulletin CS-605

It gives details on pre-engineered Chromalox Electric Radiant Panels and shows how they meet your heat requirements.

Radiant Heat Div., EDWIN L. WIEGAND CO., 7509 Thomas Blvd., Pittsburgh 8, Pa.

See other ad on pg. 4

CHROMALOX
ELECTRIC HEAT FOR MODERN INDUSTRY

For more details circle NED-617 L3 on enclosed inquiry slip

THE *Right* KNIFE CLEARANCE FOR EVERY PLATE THICKNESS

It is simple, fast and easy to adjust the knife clearance on a Steelweld Pivoted-Blade Shear to suit every plate thickness. Only turn a crank and watch a dial. That's all there is to it.

Because of this quick, easy adjustment, every cut made on Steelweld Shears is the best cut possible — straight, smooth, accurate. And of importance, KNIVES REMAIN SHARPER FOR LONGER PERIODS.

Built for thicknesses to 1¼ in. and for lengths to 18 feet.

STEELWELD Pivoted-Blade SHEARS CATALOG No 2011

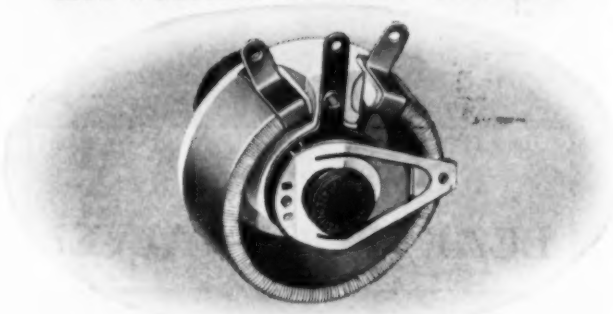
Send for free Catalog No. 2011

THE CLEVELAND CRANE & ENGINEERING CO.
6616 East 282nd St., Wickliffe, O

STEELWELD SHEARS

For more details circle NED-618 L3 on enclosed inquiry slip

TWO EXCLUSIVE FEATURES IN NEW VITROHM RING RHEOSTATS GIVE POSITIVE CURRENT CONTROL



MYCALEX insulating hub of Ward Leonard's new Ring Rheostats is *molded* to one end of the drive shaft to give more positive control and eliminate backlash.

Double ended, balanced spring steel contact arm, interlocked to the insulating hub, assures uniform contact pressure.

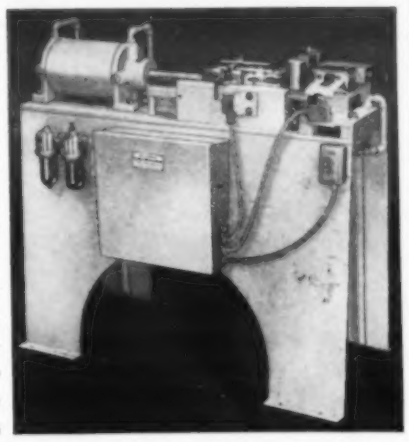
Stock types: 25R and 50R, 25 and 50 watts. 1 to 10,000 ohms.

Write Ward Leonard Electric Company, 51 South St., Mount Vernon, N.Y.

WARD LEONARD ELECTRIC CO.
Result-Engineered Controls Since 1892
RESISTORS • RELAYS • MOTOR CONTROLS • CHROMASTER

For more details circle NED-619 L3 on enclosed inquiry slip

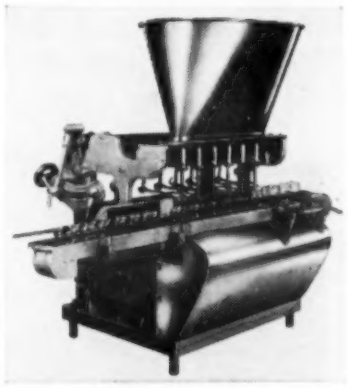
CABLE STRIPPERS for all sizes of insulated cable



Stripping operation of the Speedcraft air-operated cable strippers is entirely automatic. Bench model machine strips small cable sizes, while floor model machine accommodates large cables. When cable is inserted into the machines and hits the end stop, a Micro Switch starts the operation which consists of gripping the cable, stripping it with knives and pulling off the insulation from the end. Operation takes about 4 seconds on 1½-in. OD cable. Changeover from one cable size to another requires only a few seconds. Two operating heads are available, depending upon amount of size changing required. Made by **Wire Stripper Co.,** 1721 Eastham Ave., East Cleveland 12, O.

For more details circle NED-620 L3 on enclosed inquiry slip

CONTAINER FILLING MACHINE 250 container per minute capacity



Up to 250 containers per minute can be filled with viscous and liquid products by the type 19A filling machine. Containers move from the infeed conveyor onto the rising table and, after "bottom up" filling, they are moved onto a discharge conveyor. Glass jars, plastic bottles, metal cans and paper cups can be filled with such diverse products as salad dressing, jams, liquid soaps, glue, grease and cosmetics. Quantity adjustment from ½ to 32 fluid ounces is offered. Accessories such as agitators, oil or water jackets, manifold chests and nozzles for dripless operation are available. Made by **Hope Machine Co.,** 9402 State Rd., Philadelphia 14, Pa.

For more details circle NED-621 L3 on enclosed inquiry slip

DO YOU KNOW? A flexible venting attachment in the form of a kit which carries heat, moisture and lint out-of-doors is now available for Whirlpool gas and electric dryers. Kit consists of aluminum tubing exhaust ahead, Flexflyte wire-reinforced plastic duct and necessary clamps. Made by Whirlpool Corp., St. Joseph, Mich.

For more details circle NED-622 L3 on enclosed inquiry slip

SALIENT FEATURES OF HAR-BAR BARRIERS

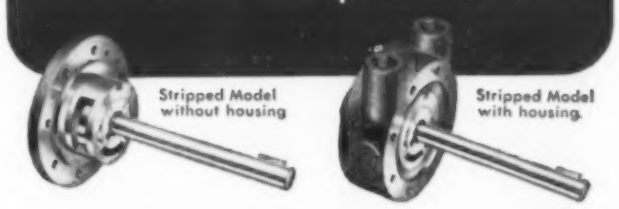
1. High enough to stop your car.
2. Low enough to clear your bumper guards.
3. Barrier is above ground — no drainage problem.
4. Barrier is above ground — no rotting of wood.
5. Automatically spaces your cars.
6. Follows contour of your ground.
7. Easily installed — just line up and drive the anchor pins.
8. Easily moved — just pull the anchor pins.
9. Easy to clean under.
10. Easy to maintain.
11. Installed on any kind of surface — black top, cement, macadam, gravel or cinders.
12. It really dresses up your parking lot.
13. You always stop against your tire — no shock.
14. Castings are non-rusting aluminum alloy.

Send us a plot plan of your parking lot—we do the engineering free.

HARRIS-BARRIER INC. 5407 N. PENNSYLVANIA STREET INDIANAPOLIS 5 - INDIANA

For more details circle NED-623 L3 on enclosed inquiry slip

COMPACT automatic reversing vane pumps



You can make these compact pumps an integral part of your machines. They're automatic reversing . . . discharge in one direction, supply coolant or lubricant continuously regardless of shaft rotation. Direction of discharge changed easily in field.

Brown & Sharpe Automatic Reversing Vane Pumps in *Stripped Models without housing* offer minimum projection from machine surfaces . . . designed for use when suction and discharge ports can be incorporated in machine castings. *Stripped Models with housings* are easily installed when ports cannot be designed into machine, or when outside piping is desirable. *Complete pumps also available.* Sizes: 2½, 5, and 11½ gpm.

Write for Bulletin. Brown & Sharpe Mfg. Co., Providence 1, R. I., U.S.A. Buy through your local Distributor.

Brown & Sharpe BS

For more details circle NED-624 L3 on enclosed inquiry slip

HIGH VACUUM PUMP USERS:

END WATER VAPOR TROUBLE

NRC Rotary Gas Ballast Pump— Model NRC 100M — a 2-stage pump unit

- **Maintains fast pump down time**
- **Eliminates oil reclaiming units**
- **Provides greater capacity under 1 mm Hg**
- **Requires up to 80% less oil charge**
- **Capacities from 1¼ cfm to 400 cfm**
- **Pressures down to 10^{-4} mm Hg**

This is important news for every user of rotary vacuum pumps. At last, an "anti-water-vapor" pump that does not blank off at increasing pressures because it is trying to pump condensable vapors.

Water vapor is no problem to the new National Research Rotary Gas Ballast Pump. It operates on a principle that *prevents* the water vapor from condensing and contaminating the pump oil.

The pump is available in capacities from 1¼ cfm to 400 cfm; pressures down to 10^{-4} mm Hg; a full line of vane, piston-type and 2-stage pumps.

Send in the coupon today for your copy of the new bulletin that gives a full explanation of the Gas Ballast principle and complete engineering data on the construction and operation of the NRC Rotary Gas Ballast Pumps.

NRC

National Research Corporation
EQUIPMENT DIVISION, *70 Memorial Drive, Cambridge, Mass.*

Send me more facts about the NRC Rotary Gas Ballast Pump ☐ Have your Salesman call ☐

Name _____
Title _____
Company _____
Address _____

For more details circle NED-625 L3 on enclosed inquiry slip

Protects AIR TOOLS AND EQUIPMENT

against rust, scale and condensation in the air line ...provides constant lubrication

The Keller Lubricator-Filter operates automatically when air tools or equipment are in operation. Filter removes moisture as well as solids—easily cleaned by opening drain cock at bottom. Oil feeds from the lubricator through an upright wick—no flooding or waste when tools are not in use.

Transparent bowls show when filter needs draining, or when light spindle oil should be added to lubricator. Write for descriptive Bulletin #65-5.

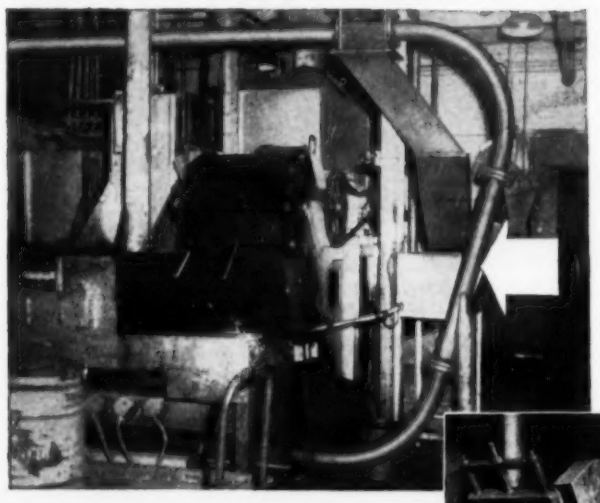
Send for illustrated descriptive bulletin and detailed information

Keller Tool Company
GRAND HAVEN, MICHIGAN

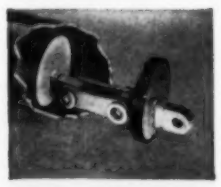
For more details circle NED-626 L3 on enclosed inquiry slip

SEE HOW YOU CAN HANDLE "HOT JOBS" WITH Hapman TUBULAR CONVEYORS

and save money too!



Chip-handling conveyor will remove chips from coolant.



Cross section showing Sealed-Pin Chain and Neoprene Flights.

THREE MAN-DAYS AND EIGHT HOURS of valuable production time every month were formerly lost in removing scale from the quench tank at Bower Roller Bearing Co., Detroit. An unpleasant job, too!

NOW . . . A HAPMAN TUBULAR CONVEYOR removes the scale *as it collects* . . . takes *no* labor or production time . . . gives *big savings!*

HAPMAN'S UNIQUE, *patented* "Sealed-Pin Chain" construction is highly resistant to abrasive and corrosive action . . . gives greater chain life . . . cuts operating costs. Solid, *tubular* design is liquid-tight.

LET HAPMAN TUBULAR CONVEYORS handle *your* "hot jobs" . . . save *you* money . . . boost *your* efficiency. Get all the details.

WRITE TODAY FOR BULLETIN ND-1153

Hapman CONVEYORS, INC.
DIVISION HAPMAN-DUTTON COMPANY
KALAMAZOO MICHIGAN

For more details circle NED-627 L3 on enclosed inquiry slip

VACUUM FILTER
rotary unit has central drive, operates without foundation

For filtering fibrous pulps, coarse crystalline and similar materials, FEinc horizontal rotary vacuum filter features a protected central mounted drive. Revolving pan is divided into wedge-shaped hollow sections covered with filter cloth or screen, each section being connected to valve mechanism which controls dewatering, washing and discharging operations. After final dewatering, product is removed automatically and dropped into a chute or conveyor. Available combinations of washing techniques include multiple-stage and counter-current washing.

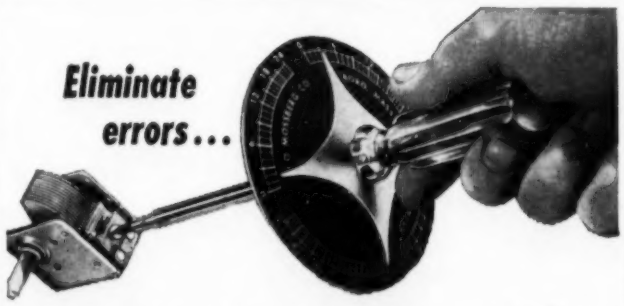
Unit can be operated without foundations, and is available in models with up to 110 sq ft of filtering area. Filter can be totally enclosed for handling volatile liquors or for steam sterilization. Parts are corrosion-protected. Choice of many construction materials is offered. Made by **Filtration Engineers, Inc.,** 155 Oraton St., Newark 4, N. J.

For more details circle NED-628 L3 on enclosed inquiry slip

MOBILE CRANE
incorporates several new features

One of several engineering developments incorporated in the Unit line of mobile cranes and excavating machines is a heavy duty undercarriage for the model 1520 self propelled crane (illustrated.) This is a ¾ yard machine with a lifting capacity up to 20 tons. Aluminum clutches are also used, which improve heat dissipation, and cut down weight for faster swing cycle reversal. These clutches are optional on 1020 and 1020A shovels and draglines. To provide added strength and digging capacity, an all-welded offset Gooseneck trenchoe boom is used on the model 1020 standard ¾ yard machine. Other modifications include the use of torque converter drive with various additional gasoline and diesel powered units. Made by **Unit Crane & Shovel Corp.,** 6607 W. Burnham St., Milwaukee 14, Wis.

For more details circle NED-629 L3 on enclosed inquiry slip



Eliminate errors...

measure tension Accurately!

When you equip your shop or laboratory with Apco Mossberg Torque Screw Drivers, testing or measuring final tension on precision fasteners is quicker...easier...and infinitely more accurate. Here's why.

Apco Torque Drivers are especially designed for maximum convenience, precision performance. Large, easy-to-read dials assure instantaneous measurements. Lighter, stronger construction makes them easy to handle . . . simple to operate. There are no springs or delicate parts to get out of kilter.

What's more, every Apco driver—from the 0 to 6 in. oz. size to the 0 to 24 in. oz. models with large positive and positive-negative dials—comes complete with a standard Stanley tool holder to accomodate interchangeable bits. With an Apco Driver, you can tighten or test torque on *all* types of fasteners—including light plastic screws.

Get the full facts on Apco Mossberg Torque Tools today! Contact your distributor or write direct. Apco Mossberg Co., 161 Lamb Street, Attleboro, Mass., U.S.A.

APCO MOSSBERG CO.
ATTLEBORO, MASS.

For more details circle NED-630 L3 on enclosed inquiry slip

HOW TO SELECT STRAPPING TOOLS

● Complete catalog offered by Brainard Steel lists applications of all types of tools and accessories for tensional and heavy-duty steel strapping. Includes specifications; fully illustrated. With the Brainard Strapping System, you can improve efficiency of packaging, carloading, palletizing, bundling, export crating, and warehousing—Brainard's complete line covers over 1000 kinds of strapping, tools and accessories. Get the complete story now.

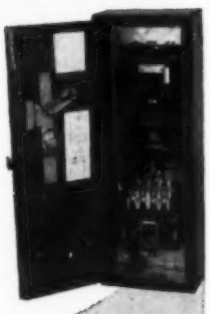
Brainard
STEEL DIVISION
SHARON STEEL CORPORATION

For Catalog write:
BRAINARD STEEL DIVISION
Griswold Street, Dept. HH-11
Warren, Ohio

For more details circle NED-631 L3 on enclosed inquiry slip

ALLIS-CHALMERS Combination STARTERS

a magnetic starter and a safety switch in one compact unit . . .



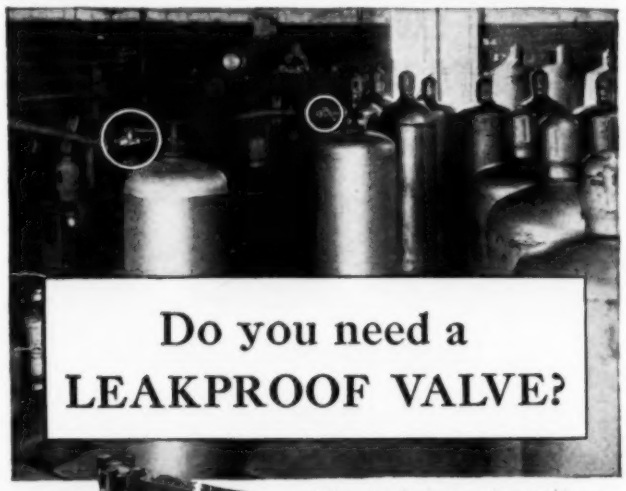
Starter has silver-to-silver double break contacts and non-carbonizing arc chambers. Circuit breaker gives short circuit protection, serves as disconnect switch. Available in sizes 0 to 5. Starters with fusible or nonfusible disconnecting switches are available up through size 3.

A-4046

There is an Allis-Chalmers starter for every motor need. Contact your nearby A-C representative or write for selection guide 14B7733, Allis-Chalmers, Milwaukee 1, Wisconsin.

ALLIS-CHALMERS

For more details circle NED-632 L3 on enclosed inquiry slip



Do you need a LEAKPROOF VALVE?

Patented

"Far ahead of any others we have used," says maintenance engineer of this propane plant.

Leakproof in a propane plant — *leakproof* on LP gas trucks — *leakproof* in a tannery — Rockwood Ball Valves are designed to operate under the roughest and most grueling of conditions. What are *your* conditions?

Remember, they're leakproof for a longer time, too — pay for themselves over and over during years of rugged service.

Other features — full, round flow; quick opening and closing; extra *wear* resistance. Tested and listed by Underwriters' Laboratories Inc. Write for complete details. It may pay you big dividends.

ROCKWOOD SPRINKLER COMPANY
44 Harlow St., Worcester 5, Mass.

ROCKWOOD *FULL-FLOW* BALL VALVES
THE FLOW IS AS ROUND AS THE PIPE ITSELF

For more details circle NED-633 L3 on enclosed inquiry slip

McGILL MANUFACTURING CO., INC. 101 N. Lafayette St. Valparaiso, Indiana

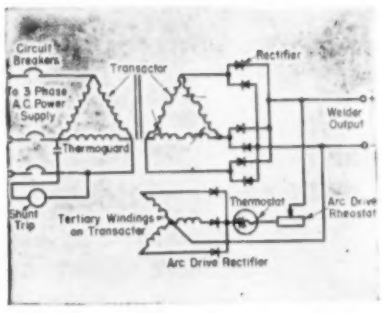
▲ For more details circle NED-634 L3 on enclosed inquiry slip ▲

DRAW FURNACES are of air recirculating type

With chamber sizes of 8 x 6 x 14 and 12 x 8 x 18 in. respectively, models ACH and ACH-2 recirculating air draw furnaces are designed for closely controlled heat treating. Interior is housed in a stainless steel retort, and side wall baffles are provided to direct air flow. Furnace atmosphere is directed behind these baffles, where the elements are located, and continues downward through the work, returning to the fan below the perforated hearth. Illustration shows unit with factory wired integral control panel. This insures correct and simple installation and makes for portability. Other insert shows air circulating fan assembly with hearth plate removed. Made by **Cooley Electric Mfg. Corp.**, Dept. F-3, 905 Daly St., Indianapolis 2, Ind.

▲ For more details circle NED-636 L3 on enclosed inquiry slip ▲

DIRECT CURRENT ARC WELDER redesigned selenium rectifier type available in five models



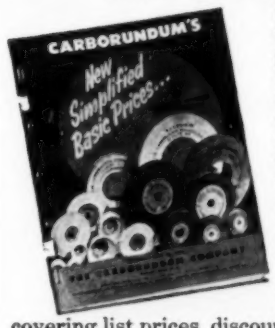
Small, light, easy to maintain and convenient to operate, this redesigned selenium rectifier type direct current arc welder incorporates the characteristic advantages of static plate type rectifiers. It has no rotating parts except its fan motor and is able to combine alternating current welding performance with direct current welding characteristics at high efficiency and low no-load losses.

Components parts have been rearranged, with the rectifier unit at the bottom being ventilated with the coolest air. A de-ion circuit breaker protects against excessive overloading. Arc Drive Control prevents arc shorting out during metal transfer from the electrode in welding vertical or overhead welds or deep groove welds. Welders are available in 200, 300 and 400-amp sizes, plus 300/600 and 400/800-amp duplex models. Made by **Westinghouse Electric Corp.**, P. O. Box 2099, Pittsburgh 30, Pa.

▲ For more details circle NED-637 L3 on enclosed inquiry slip ▲

NEW BASIC PRICE BOOK... Greatly simplifies ordering and pricing industrial grinding wheels

Source: THE CARBORUNDUM COMPANY Niagara Falls, New York



CARBORUNDUM has taken the mystery out of buying industrial grinding wheels...by adopting the first really simplified basic price system in the history of the industry. Now you can determine prices, ordering quantities and discounts for a given wheel, almost without exception, by checking a single page of CARBORUNDUM's "New Simplified Basic Prices of Grinding Wheels for Industry." **The extent** of the simplification is indicated by the fact that the information requiring 114 pages—covering list prices, discounts, etc.—has been reduced to only 32 pages. You can now order your grinding wheels from CARBORUNDUM with a speed and accuracy hitherto impossible. **You no longer** have to refer to several pages to determine prices and discounts, nor follow complicated rules, nor apply chain discounts, nor worry about decimal multipliers. Even special price additions covering various shapes have been eliminated. Basic prices are shown for all regular grinding wheels—straight wheels *and* special wheels such as dishes, saucers, flaring cups, special faces, cones, plugs and many others. Practically all the wheels you use can be priced with a single discount... thus further simplifying your paper work and minimizing errors.

Coincidental with the adoption of this basic pricing system, some price adjustments have been made. Prices of certain lines of wheels have been reduced, others are slightly higher. **Call your** CARBORUNDUM distributor or salesman today for your copy of this new price book—let him show you how it saves you time and money. Or, if you prefer, use the inquiry form and we will mail it to you promptly.

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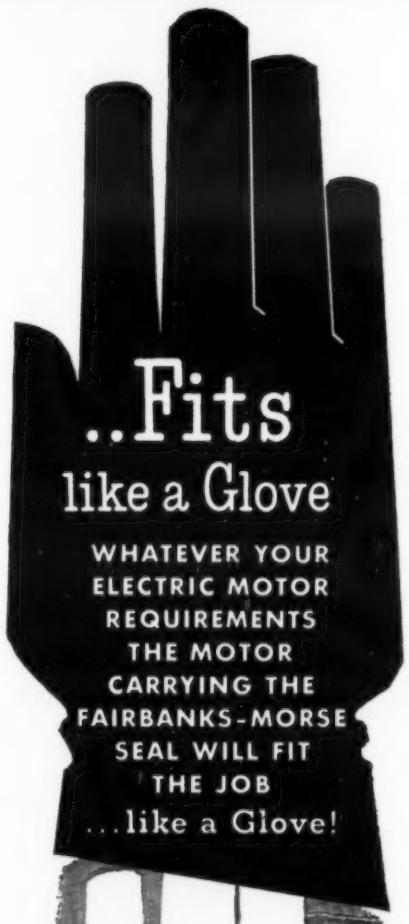

..Fits like a Glove

WHATEVER YOUR ELECTRIC MOTOR REQUIREMENTS THE MOTOR CARRYING THE FAIRBANKS-MORSE SEAL WILL FIT THE JOB ...like a Glove!

A.C. or D.C. . . . single phase or polyphase . . . induction or synchronous . . . in all ratings and frame types —whatever the need, you can find the one motor best suited to the job in the complete line of Fairbanks-Morse Motors. Call your nearby Fairbanks-Morse electric motor branch for details, or write: Fairbanks, Morse & Co., 600 So. Michigan Ave., Chicago 5, Ill.

FAIRBANKS-MORSE,

a name worth remembering

ELECTRIC MOTORS AND GENERATORS • MAGNETOS • PUMPS
DIESEL LOCOMOTIVES AND DIESEL ENGINES • FARM MACHINERY
SCALES • RAIL CARS • HOME WATER SERVICE EQUIPMENT

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don't take our word for it!

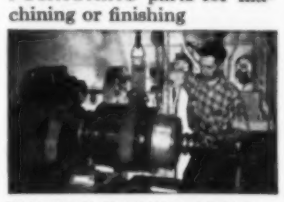
Just try a **GRIPPER WOVEN WIRE SLING** in your own plant and see if you don't agree it's the most amazingly versatile MATERIALS HANDLING TOOL yet to hit the market!

Use your Gripper sling for—

LIFTING compact, heavy loads to and from delivery vehicles

MOVING long members into and out of storage racks

POSITIONING parts for machining or finishing



. . . or for any other routine or special sling problem . . . anywhere in the plant.

Gripper slings won't snarl or tangle, won't cut operator's hands with broken wires. They'll lift any load with ease and safety. Each sling can be used in basket or choke hitch.

WANT TO KNOW MORE? See your mill supply, safety equipment or materials handling dealer . . . or write for illustrated literature and data.

The Cambridge Wire Cloth Co.

WIRE CLOTH | METAL CONVEYOR BELTS | SPECIAL METAL FABRICATIONS

Department R
Cambridge 11, Maryland

DISTRIBUTORS—Write for open territory data!

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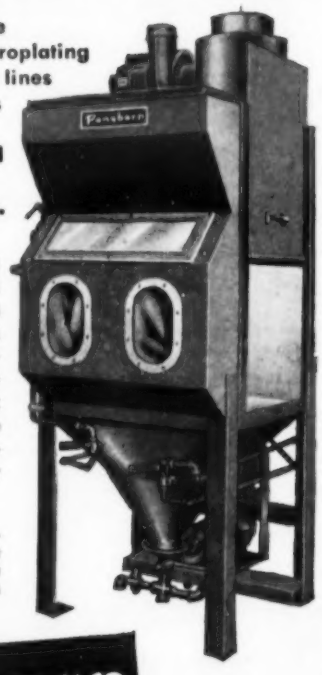
Pangborn HYDRO-FINISH

- deburrs • removes scale
- prepares surfaces for electroplating
- removes, blends grinding lines
- finishes threaded sections for fit
- improves die making and maintenance
- improves cutting tool life.



PANGBORN Hydro-Finish does all these jobs and more! Fine mesh abrasives suspended in water give you a precision finish . . . hold tolerances to .0001". Vary abrasives, air pressures, work distances, ratio of liquid to abrasive and you can do almost any finishing job faster and better!

GET THE FACTS on how Hydro-Finish can save *you* money! Write for Bulletin 1400A to: PANGBORN CORPORATION, 2400 Pangborn Blvd., Hagerstown, Md.

Pangborn BLAST CLEANS CHEAPER *with the right equipment for every job*

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TO REACH HIGH PLACES SAFELY...

This illustrated folder describes the complete line of Ballymore ladders that are saving time and money and increasing capacity of storage space in business and industry. Send for your free copy today.

BALLYMORE COMPANY
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City_____ Zone_____ State_____

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in ANY Laboratory

where Electrical Equipment is used

This Universal Bridge is always set up and ready to make measurements of:

Resistance: 1 milliohm to 1 megohm

Capacitance: 1 micromicrofarad to 100 microfarads

Inductance: 1 microhenry to 100 henrys

Dissipation Factor (R/X): from .002 to 1

Storage Factor (X/R): from .02 to 1000

Type 650-A Impendance Bridge is completely self-contained with built-in power sources for both d.c. and 1000-cycle a.c. measurements. Price: $260

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90 West St. NEW YORK 6 920 South Michigan Ave. CHICAGO 5
1000 North Seward St. LOS ANGELES 38

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ITS FELT TIP WRITES ON EVERYTHING!

in BOLD or fine lines

Marking steel drums, tools, parts, pipes, etc. is smooth sailing with the Flo-master Felt-Tip Marker.

The complete range of ten colors in Flo-master Inks permits speedy and accurate identification for assembling, stocking, inspecting.

Flo-master semi-opaque inks — waterproof, non-smudging, fast-drying — are recommended for hard-to-mark surfaces using the KING SIZE Flo-master. For general purpose marking—cartons, cases, etc—use Transparent Inks with POCKET SIZE Flo-master (illustrated).

Contact your supplier or write direct to Cushman & Denison Manufacturing Co., 153 West 23rd Street, New York 11.

Flo-master FELT-TIP MARKER

For more details circle NED-643 L3 on enclosed inquiry slip

NEW COLD WOOD GLU SETS IN 20 MINUTES!

A Better All-Purpose Industrial Glue

WOOD GLU is a very strong, *fast-setting new* COLD liquid Resin Glue . . an outstanding Paisley scientific development. Now you can bond, *in 20 to 30 minutes*, many different materials heretofore impossible to join with ordinary Wood Glues.

Paisley WOOD GLU is ideal for industrial wood joining operations. Also for faster assembly gluing and bonding of laminated plywood, paperboard, fabrics, leather and similar porous materials. Use it as received, with flow guns, brushes, spreaders. Mail the coupon order form below for trial shipment, on approval!

Gentlemen: Ship on approval, f. o. b. Chicago or New York, the WOOD GLU indicated below: ____ cases 12/qts. @ $2.10 qt. ____ cases 4/1 gals. @ $6.00 gal. ____ 5 gal. cans (bulk) @ $5.50 gal.

Paisley ADHESIVE

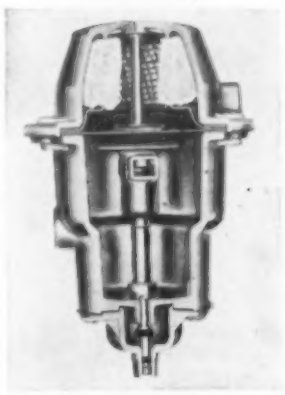
Name _____

Address _____ City _____ State _____

PAISLEY PRODUCTS INCORPORATED
Division of MORNINGSTAR, NICOL, INC.
1770 CANALPORT AVENUE, CHICAGO 16, ILLINOIS • PHONE CANAL 6-2219
630 WEST 51st STREET, NEW YORK 19, N.Y. • PHONE COLUMBUS 5-2860
Manufacturers of Glues, Pastes, Resin Adhesives, Cements and Related Chemical Products

For more details circle NED-644 L3 on enclosed inquiry slip

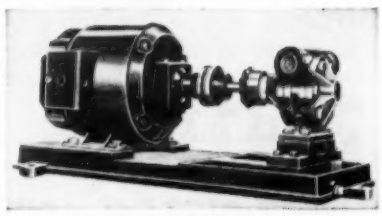
MOISTURE SEPARATOR
automatic, for air line use



Automatically separating and discharging all non-gaseous contaminants from air lines, model 1002-A separator is available for ¼, ⅜ and ½-in. air lines. Separator stores air pressure to discharge accumulated water and sludge which collects from a main expansion chamber and an auxiliary filter. Use of the line served by a unit triggers the discharge of any accumulation. Device has only one moving part actuated by a diaphragm. Made by **Wilkerson Corp.**, 3435 S. Platte River Dr., Englewood, Colo.

For more details circle NED-645 L3 on enclosed inquiry slip

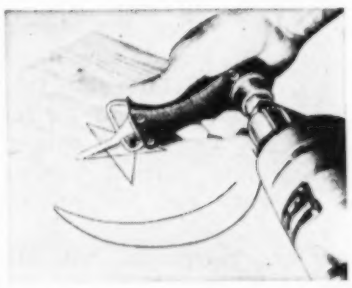
ROLLER-TYPE PUMP
handles contaminated lubricants



Liquids with lubricating characteristics and containing foreign matter that would reportedly jam other pumps can be handled without damage by this direct-drive roller-type pump. Continuous circulation of liquid reduces effects of cavitation and allows satisfactory operation at higher than usual pump speeds. Capacities range from 90 to 420 gph at pressures to 100 psi. Available from **Eclipse Fuel Engineering Co.**, 1002 Buchanan St., Rockford, Ill.

For more details circle NED-646 L3 on enclosed inquiry slip

SAW ATTACHMENT
for electric drill, cuts metal, wood



Less than 7 in. long, including blade, and weighing 1 lb 6½ oz, the Handy Angle saw attachment for electric drills operates at speeds from 1800 to 3500 rpm to cut pipe, corrugated sheet metal, wood, Transite, etc. It will cut its own starting hole. Blades are reversible for right and left-hand users. Both the bayonet type for contour cutting and tapered type where rigidity is needed are available with 10, 14 and 18 teeth per inch. All blades will cut metal. Tool and blade assortment sells for $13.75. Available from **Price & Rutzebeck**, 22150 Meekland Ave., Hayward 79, Calif.

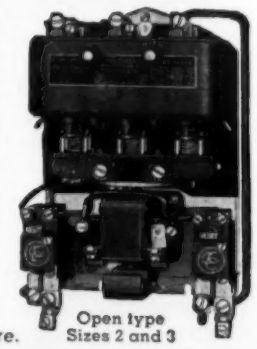
For more details circle NED-647 L3 on enclosed inquiry slip

NEW CLARK Type "CY"

AC MAGNETIC MOTOR STARTERS now available in EXPLOSION RESISTING ENCLOSURES

The sensational new CLARK Type "CY" motor starters are offered in a wide variety of types and enclosures for use in such industrial atmospheres as hazardous gas, dust or excessive humidity. Illustrated above, is the NEMA Type 7 Cast Iron Explosion Resisting Enclosure for conditions where such special protection is required.

CLARK Type "CY" starters, sizes 2 and 3, have an entirely new arc-quenching principle which greatly increases contact life, by a constant rotation of the arc on contact surfaces.



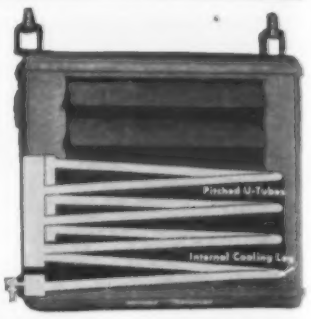
Open type Sizes 2 and 3

Write for descriptive literature.

THE CLARK CONTROLLER CO.
ENGINEERED ELECTRICAL CONTROL • 1146 EAST 152ND STREET, CLEVELAND 10, OHIO

For more details circle NED-648 L3 on enclosed inquiry slip

With THERMOLIER ... the Grinnell Unit Heater ... YOU GET CONTINUOUS RATED CAPACITY



Failure of unit heaters to give freedom from collected condensate in the heating element can interfere with heat output and adversely affect capacity.

A Thermolier Unit Heater successfully handles this drainage problem with its pitched U-tubes and internal cooling leg, through which all the condensate passes. In fact, condensate cooling is so efficient with Grinnell Thermoliers that a thermostatic trap — the simplest and least expensive of all traps — can be used with every model. Condensate temperature is lowered to the point where the trap is always draining — giving Thermolier Unit Heaters their *continuous rated capacity*.

For further details, call your local Grinnell distributor — or send for catalog.

GRINNELL
THERMOLIER UNIT HEATERS

GRINNELL COMPANY, INC.
Executive Offices: Providence, Rhode Island
Sales Offices and Warehouses in Principal Cities

For more details circle NED-649 L3 on enclosed inquiry slip

Announcing a new combination by two leaders in materials handling, to serve you better

MHS Louden

Mechanical Handling Systems has purchased Louden Machinery Company, Fairfield, Iowa, manufacturer of monorail and overhead crane equipment.

With this acquisition, a new team with greater capabilities for service to all industry has taken the field.

Louden is a firm with an 86-year history of quality manufacturing. Louden overhead cranes, monorail, and special equipment are speeding materials handling and cutting costs in thousands of plants.

Mechanical Handling Systems has been designing, engineering and building conveyor systems of all types, in many industries, for 34 years. The MHS field includes simplest installations and multi-million-dollar automated plants.

Together, Mechanical Handling and Louden complement each other in products, experience, engineering, manufacturing facilities and skills, and field manpower.

To American Industry the new combination brings a broader, more advantageous, more valuable service in the materials handling field.

Present sales offices and organizations of the two companies remain separate and independent.

THE LOUDEN MACHINERY COMPANY
Fairfield, Iowa

For more details circle NED-650 L3 on enclosed inquiry slip

ALLIGATOR V-BELT DRIVES

"B" Display Unit

. . . you can make up all lengths of V-Belts quickly

★ **Units contain V-Belting, Fasteners and Tools**—everything you need in one package for all emergencies when correct endless V-Belt is not available.
★ **Avoid costly delays,** shut-downs and pickups.
★ **Eliminates costly dismantling** of machinery when re-belting.
★ **Completely modern make-up units** that give you peace of mind as well as stock on hand.
★ **Less Stretch and Follow-Up Maintenance.** Just One Strong Joint.
★ **Alligator V-Belt Drive Units,** available in sizes A, B, C and D. B size furnished in display box.
★ **Order from your distributor. Ask for Bulletin V-215.**

FLEXIBLE STEEL LACING CO.
4664 LEXINGTON ST., CHICAGO 44, ILL.

For more details circle NED-651 L3 on enclosed inquiry slip

SHORT RUN STAMPINGS
Any Shape—Any Material

HPL produces stampings economically in lots of 25 to 25,000 pieces, for experimental or development work or other limited quantity requirements.

Exclusive **HPL Fast-Tooling** method saves up to 80% of conventional tooling costs, permits minor die changes quickly and inexpensively. Dies are maintained for all future orders without charge.

Speedy delivery is available on parts made to your rigid specifications from any material that can be stamped. Send sample part or blueprint for quotation.

Write today for Bulletin No. 718

718-HPL

HPL Manufacturing Co.
15211 Miles Avenue • Cleveland 28, Ohio

For more details circle NED-652 L3 on enclosed inquiry slip

For more details circle NED-653 L3 on enclosed inquiry slip

POWER STEERING CONTROL
valve alters degree of boost

Mounted on the steering column for either right or left hand operation, this control valve is connected to the Air-O-Matic power steering booster and permits truck drivers to alter the degree of boost to suit driving conditions. Lever moves up and down at the touch of a finger and power selection is made without the driver taking his eyes from the road. Control is reported to eliminate the possibility of oversteering. Made by **Air-O-Matic Power Steer Corp.,** Medina Bldg., 24 Noble Ct. N.W., Cleveland 13, O.

For more details circle NED-654 L3 on enclosed inquiry slip

VERTICAL SPINDLE GRINDER
coolant circulated through spindles

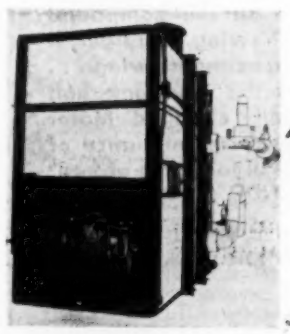
With a motor-driven pump circulating coolant to the abrasive wheels through hollow spindles, model 203-15-in. vertical spindle grinder has a vertical column supporting grinding heads or vertical slides. Each head slide is provided with hand wheel and feed screw mechanism for raising and lowering the heads. Illustration shows machine set up for grinding ceramic insulators and trimmer bases, where maximum overall stock removal is 0.005-in. Production of either part is between 60 and 70 pieces a minute. Work fixture for both operations is of the hand-fed rotary magazine type. Made by **Gardner Machine Co.,** 460 E. Gardner St., Beloit, Wis.

For more details circle NED-655 L3 on enclosed inquiry slip

DO YOU KNOW? Carheet Circulator is a device that pumps stored-up engine heat through the car heater after the engine is shut off. It is reported that truck cabs are kept warm 30 minutes or more before the engine heat is gone at which time unit shuts off automatically. Unit is inserted in existing heater hose of any car or truck. Made by Heat Circulator Co., 6017 E. 57th St., Seattle 5, Wash.

For more details circle NED-656 L3 on enclosed inquiry slip

Safe Heat
...and plenty of it 600° F
For Asphalt Melting, Coating and Impregnating



When using the Merrill System of heating with hot oil, the maximum pressure even at 600°F. is only 25 # at point of use. No odors or dangerous gases are produced, and product temperatures are held to 2°F. if desired.

Get full details on how the Merrill System can help you with your high temperature problems by writing now.

Parks-Cramer Company
ENGINEERS and CONTRACTORS
Fitchburg 1, Massachusetts

For more details circle NED-657 L3 on enclosed inquiry slip

NOW HUSKIER AND HANDIER
for all types of soldering

INSTANT HEAT up to 275 Watts

Finest, fastest soldering tool you've ever seen—the new WELLER Electric Gun, completely redesigned and packed with features and power for every job.

***Four models*—single and dual heat light and heavy duty**

• *Instantaneous thermostatic control* • *Full, constant heat* • *Perfect balance* • *Prefocused spotlights* • *Shatterproof housing* • *Low-cost, replaceable Soldering, Smoothing and Cutting tips* • *Longer reach*

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Better from Grip to Tip

Weller ELECTRIC GUNS

THE FINEST TOOLS FOR THE FINEST CRAFTSMAN

809 Packer Street, Easton, Pa.

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RIGHT IN YOUR OWN OFFICE INSTANTLY!

"COLOR-CODE" YOUR PHOTOCOPIES!

Increase office efficiency with copies in any color for immediate recognition, faster filing, speedier handling.

ALL ELECTRIC
APECO SYSTEMATIC *Auto-Stat*

Makes photo-exact copies of anything typed, written, printed, drawn or photographed in any color or black and white.

Now make photocopies in color! The amazing Apeco Systematic Auto-Stat makes a dry photocopy in red, blue, green, yellow or any other color—including black and white—in less than 45 seconds. Now—"color-code" orders, invoices, letters, etc.—speed up order filling and office procedure—save filing time! This lightning-fast copying machine prints from any original up to 11" wide, any length, whether printed on one or two sides opaque or translucent paper . . . all automatically. Finished copies are ready for instant use. Save up to 80% on copying cost by eliminating costly re-typing, hand copying, checking and outside copying service. Offers even greater savings in increased business efficiency.

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Methods experts acclaim new pre-printed Auto-Stat copy system offering simplified office record procedure tailor-made to your particular needs.

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Please rush me, without obligation, your factual book on "29 ways to save time and money" and the Apeco Auto-Stat story. I understand this free booklet pictures and tells how I can use Apeco Auto-Stat in my office

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Firm_____
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In Canada: Apeco of Canada, Ltd., 134 Park Lawn Rd., Toronto 14, Ontario

For more details circle NED-659 L3 on enclosed inquiry slip

▲ For more details circle NED-660 L3 on enclosed inquiry slip ▲

CAMCAR COLD-FLOW IS BOLD WITH BRASS

OLD METHOD	COLD – FLOW
MATERIAL REMOVED 88.5%	31.3%
SAVINGS IN MATERIAL COST ALONE.....	83.5%

Cold-Flow boldness produces . . . a lower cost . . . superior part . . . for Cinch Mfg. Co., Chicago, Illinois. This modern metal-flow technique adds to this brass part an increased tensile strength and a mirror finish, essential to precise molding.

Cold-Flow is flexible . . . and its boldness steps out in all metals and types of fasteners, frequently incorporating desirable features, at the same time lowering the cost.

If you are buying metal parts in large volume, it will be profitable to investigate Cold-Flow. Camcar Cold-Flow engineers combine practical imagination — skillful tooling — specially built machinery — to far exceed usual limits of metal forming.

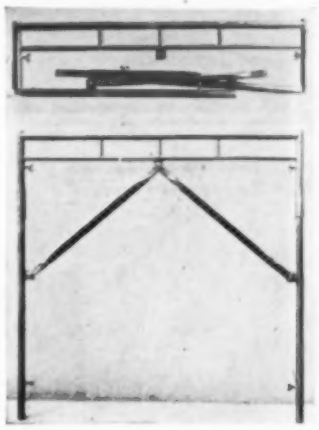
Let Camcar engineers examine your fasteners and advise what Cold-Flow can do for you.

CAMCAR COLD-FLOW

CAMCAR SCREW & MFG. CORP., ROCKFORD, ILLINOIS
603 EIGHTEENTH AVENUE
TELEPHONE 5-9451 or TELETYPE RK-8653

▲ For more details circle NED-661 L3 on enclosed inquiry slip ▲

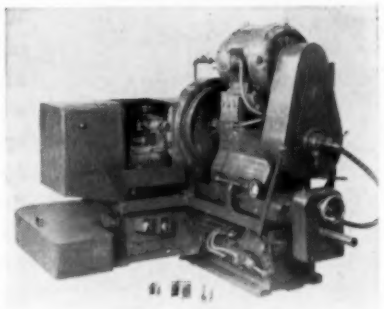
FOLDING SCAFFOLD FRAME can pass through 16-in. opening



Trouble Saver sectional scaffold end frame is built with hinged legs for folding into a compact unit that passes through openings as small as 16-in. diameter. Photo shows folded unit (top) and erected unit (bottom). It can be used for maintenance and repair work inside tanks, boilers, furnaces and similar equipment with small openings. Once inside, it unfolds, to a standard 5-ft width with folding legs held securely by collars that slide over the hinges. One section weighs 47 lb and has a 2000-lb capacity. Made by **Patent Scaffolding Co.**, 38-42 Twelfth St., Long Island City 1, N. Y.

▲ For more details circle NED-662 L3 on enclosed inquiry slip ▲

HORIZONTAL SPINDLE GRINDER has 15 by 18 in. work table



Having a hydraulically-operated work table traveling on dovetailed ways with T-slots and a work surface of approximately 15 x 18 in., model 526-26-in. horizontal spindle grinder is shown set up for grinding ends of Alnico horseshoe magnets with 3 and 5-sq in. areas. In this application stock removal is between 3/64 and 1/16-in., accuracy is between 0.0003 and 0.001-in. for flatness and 0.010-in. for uniformity. Fixture illustrated is a hand-clamping type with adaptors for various size magnets. Machine features include 25-hp motor and head slide with a hydraulic cylinder to hold head against a micrometer stop controlling stock removal. Made by **Gardner Machine Co.**, 460 E. Gardner St., Beloit, Wis.

▲ For more details circle NED-663 L3 on enclosed inquiry slip ▲

DO YOU KNOW? Now they've developed a garden sprinkler hose that develops uniform pressure throughout its length. Hose has multitube cross-section and is flat on one side so that it sprays upward at all times. Three of tubes are perforated for spraying, and fourth channel carries water the full length of the hose where it is forced by a brass cap back into the other tubes. This reverse action keeps the pressure equal throughout the hose. Developed by United States Rubber Co., 1207 Rockefeller Center, New York 20, N. Y.

▲ For more details circle NED-664 L3 on enclosed inquiry slip ▲

HERE'S THE TEAMMATE

Get fast, convenient grinding of lathe centers, cutters, reamers, rolls and dies. You can do it with THE CINCINNATI Ball Bearing Tool Post Grinder!
THE CINCINNATI mounts on the compound rest of any lathe with a 9" swing, or larger. It grinds within 2½" of the maximum swing . . . can be swivelled around the clamping bolt . . . spindle height is readily changed. Motor mount is adjustable for easy maintenance of belt tension. Write today! Ask for name of your distributor or Bulletin 53-ND

THE BEST IN DRILLS, GRINDERS, BUFFERS, PORTABLE TOOLS

TRADE The Cincinnati MARK

THE CINCINNATI ELECTRICAL TOOL CO.
Division of THE R. K. LeBLOND MACHINE TOOL CO.
CINCINNATI 8, OHIO

▲ For more details circle NED-665 L3 on enclosed inquiry slip ▲

CONTROL PAINT OVERSPRAY . . . In a big way!

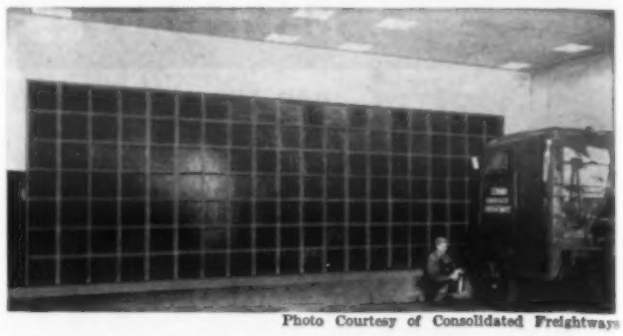


Photo Courtesy of Consolidated Freightways

R P Paint Arrestors Provide Effective Control of Large Volume Overspray . . . at Low Cost!

This user eliminated paint overspray problems in the most effective, most economical way possible . . . with R P Paint Arrestors! This new, better method is inexpensive to install and maintain, saving in floor space, flexible in application. Check today, on the R P way to modern overspray removal.

WRITE FOR FREE BOOKLET
Helpful, informative suggestions to solve your paint spray booth problems. Write today.

RESEARCH PRODUCTS CORPORATION
Dept. 32 Madison 10, Wis.

RP . . . PRODUCTS OF RESEARCH

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REQUIRE PRECISE TEMPERATURE CONTROL?

Thermo Electronic

TEMPERATURE CONTROLLERS
(THERMOCOUPLE OR RESISTANCE BULB)

. . . provide null balance measuring accuracy with electronic sensitivity and speed at LOW COST . . . Processes operating between −100°F and 3000°F can be controlled accurately and automatically. The two-position control action is continuous and high speed, only one part—the control relay—moves when process calls for change of heat. Signal lights indicate temperature conditions. . . . Simple in design, ruggedly constructed, Thermo Electronic Controllers are easy to install, economical to operate, and require little maintenance . . .

LET US RECOMMEND THE CONTROLLER BEST SUITED FOR YOUR JOB OR WRITE FOR
Thermocouple Pyrometer Controller Bulletin 50 T
Resistance Bulb Controller Bulletin 55 T

Thermo Electric Co., Inc.
FAIR LAWN NEW JERSEY

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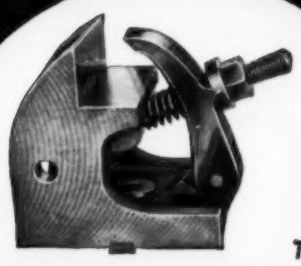
CUT SET-UP COSTS HUNDREDS OF WAYS WITH HART MILLING FIXTURES



"Masters of A Thousand Set-ups"

Eliminate the need for many special expensive jigs and fixtures.

You will save time and money on most set-ups with Hart Milling Fixtures. They hold round, hexagonal, octagonal or square stock, for miller, shaper, drill press and tapper; they reduce set-up time and speed production. Hart Milling Fixtures are made in four useful sizes, and designed to be used in horizontal or vertical position. Let us send you full description and prices.

Write for illustrated folder

WALTER W. FIELD & SON, INC.
39 Hayward St., Cambridge 42, Mass.

▲ For more details circle NED-668 L3 on enclosed inquiry slip ▲

Where Precision Specifications Are A "Must"

RYNEL

PRECISION GEARS OFFER

DESIGN ENGINEERING
PRODUCTION SUPPLY
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AIR-LIFT SERVICE

DESIGNERS AND SUPPLIERS
Electronic
Instrument
Communication
Navigation
Power Tool
and
Appliance
FINE PITCH GEARS

Complete gear service not only in design and supply, but in ultimate product performance, is assured by Rynel's new production system of gear quality control. Gear laboratory checking and executive-type air service assure you of precision specifications, custom-designed and delivered to meet your requirements.

Consult Rynel engineers on your precision gear requirements, 12 pitch and finer.

A Rynel Engineer will visit you the same day you call.

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New Concepts In Fine Pitch Gear Supply.

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SPUR • HELICAL • WORM • WORM GEAR • INTERNAL SEGMENT • RATCHET • STRAIGHT BEVEL GEARS

For more details circle NED-669 L3 on enclosed inquiry slip

SMOOTH, QUIET, PRECISION STOPS! SMOOTH, FAST, DRAG-FREE STARTS

THROUGH MILLIONS OF CYCLES
WITH STAR-KIMBLE BRAKEMOTORS

Stopping of a Star-Kimble Brakemotor is split-second in action, precisely timed by simple adjustments. Quiet, too — no lining screech. Starting is smooth and free from drag — small air gap assures quick brake release. Brake and motor are *designed* together to *work* together as a single compact unit. Write for Bulletin B-501-A.

Standard and special motors of all types, 1 to 600 hp; Marine motors ½ to 600 hp; generators and motor-generator sets, 1 to 500 kw.

STAR-KIMBLE
MOTOR DIVISION OF
Miehle Printing Press and Mfg. Co.
214 Bloomfield Avenue Bloomfield, N. J.

For more details circle NED-670 L3 on enclosed inquiry slip

Trustworthy
Easy-to-Read
SPEED
MEASUREMENTS
with
Overspeed
Protection

DR. HORN Hand Tachometer

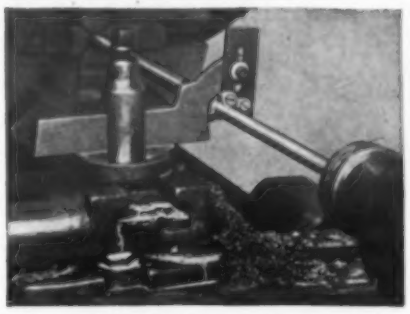
Dr. Horn is a time-honored name in hand tachometers. Sturdy simplicity of construction maintains precision dependability in day-in, day-out service with little or no maintenance cost. Its clear scale affords instantaneous reading of any of 6 speed ranges from 25 rpm to 30,000 rpm. A hold-button permits reading away from the machine in good light or out of danger. Equally accurate in vertical, horizontal or slanting position. Overspeed protection. Write for BULLETIN 35-D.

(Exclusive U.S. Distributor)

JAMES G. BIDDLE CO.
Electrical & Scientific Instruments
1316 ARCH STREET, PHILADELPHIA 7, PA.

For more details circle NED-671 L3 on enclosed inquiry slip

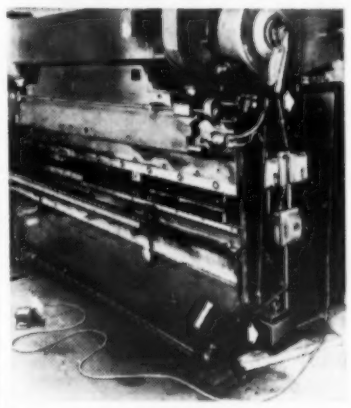
TOOL HOLDER & FOLLOW REST for turning long thin shafts



For turning long, small - diameter shafts easily and quickly, this combination tool holder and follow-rest has a capacity of up to 1½-in. diameter. Tool is adjusted by dropping the roller plate on the shaft and tightening a single screw. Rollers prevent shaft from chattering, springing out or climbing over the tool. Close diameter tolerances can be held over the full length of the cut. Illustration shows a tool steel shaft, ⅞-in. diameter by 30-in. long, being reduced to 9/16-in. diameter in a single cut. Made by **Pull-Gear Co.**, 4120 E. Eight Mile Rd., Detroit 34, Mich.

For more details circle NED-672 L3 on enclosed inquiry slip

PRESS BRAKE CONTROL allows use of unskilled operators



For preventing accidents and spoiled work and also increasing production, model AAC automatic press brake control additionally permits the employment of unskilled operators. It consists of control panel, solenoid, foot switch, and automatic switch box tied in with the stroke of the ram. Ram can be set to stop automatically at any point in its downstroke, and remains in position until switch is pressed again. Then ram completes its stroke and returns to the top position. Work can be safely removed while the ram raises itself. Double clutching is accomplished by a switch on the panel board, and the brake can also be used manually if desired. Made by **American Actuator Corp.**, 40-A Hudson St., New York 13, N. Y.

For more details circle NED-673 L3 on enclosed inquiry slip

DO YOU KNOW? The first International Machine Tool Exposition which opened Oct. 5th contains a display of nearly 1000 machine tools under power and available for actual demonstration. This permanent "machine tool city" exhibits the newest machines from the United States as well as from France, Italy, Great Britain, Switzerland, Germany and Japan. Exhibits are in Brooklyn, N. Y. Committee which sponsors this show is headed by Col. George Hartman, Portland Machine Tool Works, South Portland, Me.

For more details circle NED-674 L3 on enclosed inquiry slip

NEW Safety Goggles

Now . . . 2 New
AO COVERGLAS GOGGLES
Fit Over Safety and Personal Glasses

AO's newest development in eye protection—Chippers' and Welders' Coverglas Goggles—can be worn over practically every pair of personal glasses (even the biggest frames) and most types of safety prescription goggles *with and without side shield.*

Wider vision, too, because the lenses are larger and scientifically designed to give up to 20% more vision. Yet, with all these features the goggles weigh but a fraction of an ounce more than ordinary Coverglas goggles . . . cost only slightly more.

These goggles are the newest . . . and two of the greatest . . . developments since the advent of safety goggles. Get all the facts about these two outstanding Coverglas goggles from your AO Safety Products Representative. He can supply you.

American Optical
SAFETY PRODUCTS DIVISION

Southbridge, Massachusetts • Branches in Principal Cities

For more details circle NED-675 L3 on enclosed inquiry slip

Bring your Bin Flow Problems to the
PneuBin Booths
C-155 • C-156 • C-157 • C-158
24th Exposition of the Chemical Industries

Visit our booths at the 24th Exposition of the Chemical Industries, November 30th to December 5th, in Philadelphia. PneuBin engineers will explain and demonstrate this revolutionary new device, designed to eliminate bridging, rat holing, caking or slow-flow due to high-viscosity.

The PneuBin unit consists of a steel-backed neoprene panel, mounted on the inside wall of your bin. By inflation and deflation of the panel, the bin contents are displaced and disturbed to activation.

See this quiet, vibrationless PneuBin in operation at the show.

Regardless of what your bin flow problems are . . . bring them to PneuBin at the show.

PneuBin is a product of
GEROTOR MAY CORP. • BALTIMORE 3, MD.

Manufacturers of GEROTOR
HYDRAULIC PUMPS & MOTORS

For more details circle NED-676 L3 on enclosed inquiry slip

Need a really rugged truck?
CLARK UTILITRUCS
HANDLE THE TOUGHEST JOBS AT LEAST COST!

(FREE LITERATURE AVAILABLE)

Here are the most advanced 6000-7000 lb. fork trucks on the market today—Clark's gas or electric UTILITRUCS. Built to handle jobs that break the backs of less rugged trucks, these UTILITRUCS have proved their superiority in foundries, steel mills, stevedoring* and heavy warehousing. They represent an ideal balance of essential engineering features. They get more work done at less cost, for these reasons:

1. Easier to drive—All controls at the driver's fingertips, like an automobile; compact and more maneuverable; shockless steering; increased braking efficiency; 140 sq. inches additional visibility; 25 inches of free-lift; DYNATORK or HYDRATORK DRIVE available on gas model.

2. Easier to service—Complete accessibility on gas model: one-piece "zipper" hood folds back to expose engine; one-piece floorboard lifts up to expose master cylinder and transmission; swing-out battery. All service points easy to reach.

3. Built to take punishment—Welded, integral-unit box frame eliminates distortion; higher inch-pound rating; axle-to-frame mounting absorbs shocks and strains; new design wheel and backing plate seals out dirt and abrasives. Oil bath air cleaner and oil filter standard on gas model. Totally-enclosed drive motor, sealed-for-life bearings on electric model.

We invite you to compare the UTILITRUCS to any 6000-7000 lb. truck on the market! Without obligation, you can discuss them with your nearby Clark dealer, listed in the Yellow Pages of your phone book. Or write us for free descriptive literature.

*Special stevedoring model available

Industrial Truck Division
CLARK EQUIPMENT COMPANY, Battle Creek 21, Mich.
☐ Please send Utilitruc literature ☐ Please have representative call

CLARK EQUIPMENT

Name
Firm Name
Street
City Zone State

For more details circle NED-677 L3 on enclosed inquiry slip

Chicago RIVET "912"
AUTOMATIC RIVET SETTER
CUTS COSTS 3 WAYS

1 FASTENS FASTER . . . Only the speed of the operator limits the 912's riveting speed. Completely automatic. A push on the foot pedal automatically feeds, inserts and clinches the rivet.

2 DOES WORK OF SEVERAL MACHINE Quick change rotary hopper and raceway makes the 912 adjustable in 5 to 10 minutes to set different size rivets. Adjustable anvil height and 12-inch throat provide further versatility.

3 SAVES ON MAINTENANCE . . . The 912 is massively built to stand the shocks of constant use and is designed for quick, easy servicing and parts replacement.

If your assembly calls for 3/16" steel tubular rivets or smaller, of 15/16" lengths or less, ask us to show you how the 912 can cut your fastening costs. Send a sample of your problem assembly (or blueprint) for a free fastening analysis.

FREE CATALOG
contains valuable engineering information and rivet specifications plus illustrated descriptions of 26 Chicago Automatic Rivet Setters.

Chicago Rivet & MACHINE CO.
9606 West Jackson Boulevard, Bellwood (Chicago Suburb) Illinois
Branch Factory: Tyrone, Pa.

For more details circle NED-678 L3 on enclosed inquiry slip

Here's how to SAVE TIME in SETTING-UP and KEEPING your MACHINES LEVEL

Fast
Accurate
Self-Aligning
Machine Leveler

Empco JACK

Empco Jacks enable you to meet hurry-up demands for relocation of machinery by giving you the fastest, easiest, most accurate machine leveling ever known: you simply raise or tilt machine sufficiently to allow the Empco Jacks to be slipped under base. The number of jacks required depends on weight of machine and size of base. Once set on Empco Jacks, the entire operation of leveling and maintaining equipment level is quickly done. By applying a wrench to the "hex" head of adjusting screw, an adjustment is obtained either up or down until your level indicator reads "zero." Write for specifications and prices today.

Vibration absorbing mounting pads increase machinery life.

EMPCO PRODUCTS

THE ENTERPRISE MACHINE PARTS CORPORATION
2727 JEROME AVENUE • DETROIT 12, MICHIGAN

For more details circle NED-679 L3 on enclosed inquiry slip

The Improved Hydraulic
PULLEY PULLER

For Removing Pulleys Wheels, Gears, Couplings Sheaves, etc.

One man can do it in minutes—even if objects are stuck fast. No crowbars, sledges or blowtorches. No damage to equipment. Puller is adjustable—easy to move—rugged. Hundreds being used in industry.

- 5-ton size on wheels $92.50
- 20-ton size on wheels $290.00
- 50-ton size as shown $655.00

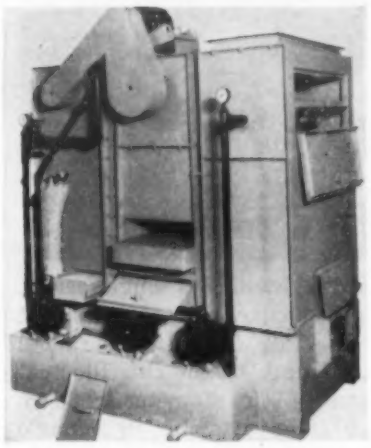
(F.O.B. Factory)

Write for complete information — Catalog E

INDUSTRIAL ENGINEERING EQUIPMENT CO.
122-124 E. 4th St. Davenport, Iowa

For more details circle NED-680 L3 on enclosed inquiry slip

AIR CONDITIONER fixes relative humidity in air and also controls air temperature



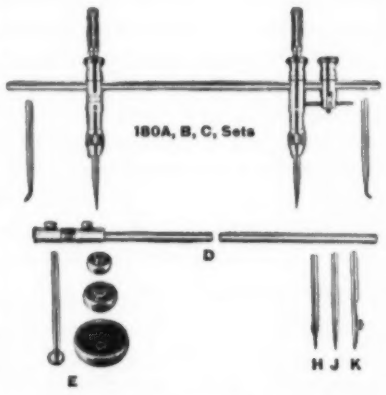
Control of relative humidity and temperature of air is provided by series 5700 air conditioner and absorbent reconcentrator apparatus which treats air with an absorbent spray to fix relative humidity. Correct temperature is obtained either by cooling or heating. Air can be dried without temperature change. Correct Hygrol moisture absorbing liquid concentration is maintained by reconcentrating the absorbent as fast as it becomes diluted.

Air temperature and moisture content control are separate functions, making it possible to obtain exact control by use of thermostats with no moisture sensitive instruments being required. As only latent heat of condensation is removed, unit effects a saving of refrigeration and reheating. Sizes available handle from 100 to 5300 cfm. Made by **Niagara Blower Co.**, Dept. E. D., 405 Lexington Ave., New York 17, N. Y.

For more details circle NED-681 L3 on enclosed inquiry slip

STEEL BEAM TRAMMELS for layout, scribing and measuring

No. 180 steel beam trammels have free-turning knurled grips on top of each tram for convenience in layout work, scribing and measuring. Trams will not turn once set, and spring friction prevents them from sliding off the beam when the nuts are loosened. Scriber points are hardened. Fine thread adjusting screw is provided. Trammel beams are 10½, 14½ and 20 in. long. With a 20-in. extension beam, circles up to 72 in. diameter can be scribed. Needle point, pen, steel point, lead holding chuck and ball point attachments are available. Made by **Lufkin Rule Co.**, Hess St., Saginaw, Mich.



For more details circle NED-682 L3 on enclosed inquiry slip

NEW! LOW-COST PILLOW BLOCK

FAFNIR Type PB
"Economy Package"

. . . incorporates Fafnir Wide Inner Ring Bearing with Self-Locking Collar.

The new Type PB Series Pillow Block is developed to fill a specific need for a high-quality, *precision* ball bearing unit *at lowest possible cost*. It is designed for *light duty* applications. Send for descriptive bulletin. The Fafnir Bearing Company, New Britain, Connecticut.

OUTSTANDING FEATURES INCLUDE
- Two-piece, separable pressed steel housing.
- Self-alignment at assembly
- Compact . . . lightweight
- Pre-lubricated bearing . . . Plya-Seal protected
- For shaft sizes up to and including 1¼".

FAFNIR BALL BEARINGS Most Complete Line in America

For more details circle NED-683 L3 on enclosed inquiry slip

HAVE A SPECIALTY WIRE PROBLEM?

Whatever it is . . .
WORK WITH WEBB and get the answer!

Here are three typical examples of how Webb specialists helped solve manufacturers' problems by selecting the grade, analysis and finish of wire that best met the requirements:

A KNOTTY PROBLEM
A manufacturer of wire fishing leaders had trouble with breakage when knots were tied. Webb specialists provided the answer—a wire of high tensile strength, yet ductile enough to withstand knotting.

SPRING TONIC
Tiny jewelry springs require proper tensile strength and constant uniformity. Webb stainless Spring Wire, Type 304, met all the requirements for this manufacturer.

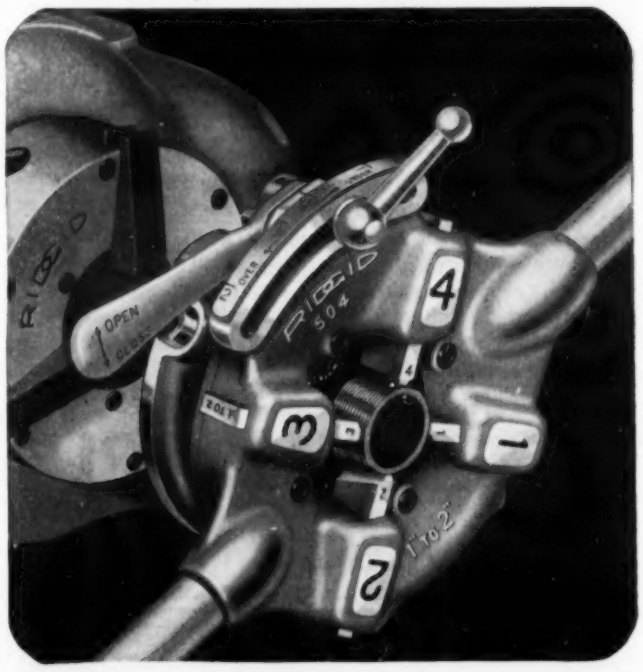
BEARDED TWINS
Spring beard needles demand proper breaking strength, correct "springiness" and ability to harden uniformly. Webb high carbon Needle Wire filled the bill for this company.

WRITE TODAY—for our new booklet, "A Look at Wire Making the Webb Way." No obligation.

THE CARPENTER STEEL COMPANY • WEBB WIRE DIVISION
17 Liberty St., New Brunswick, N. J.

For more details circle NED-684 L3 on enclosed inquiry slip

NEW RIDGID
Quick-Opening
"504" PIPE THREADER
for Power Drive use



Threads 1" to 2" pipe with 1 set of dies

You can't beat this new "504" for fast smooth threading with power drive! Changes instantly from size to size regardless of position of quick-opening lever . . . Release ball handle, move indicator line to 1", 1¼", 1½" or 2" on size bar, tighten—it's ready to thread! Quick-opening handle retracts dies instantly without stopping power drive—no slow backing off. 4-jaw workholder centers pipe for accurate threading. No lead screw to jam. Easy-to-read size bar. Adjustable to over and under size threads. See it . . . try it . . . buy the new "504" at your Supply House.

THE RIDGE TOOL COMPANY • ELYRIA, OHIO

RIDGID Work-Saver Pipe Tools

For more details circle NED-685 L3 on enclosed inquiry slip

nylon

MAINTENANCE PARTS...

FAST...without mold costs!

Now, when you need maintenance parts fast...and these parts call for the advantages of nylon (light weight, wear resistance, heat and corrosion resistance)—you can make them quickly, *with no mold cost!*

POLYPENCO nylon standard shapes are the answer. Ideal for gears, bushings, bearings, insulating shafts, washers, etc. Available in rod, strip, tubing. Easily fabricated on standard metal working tools. Quick delivery from stock. Write for bulletin, listing technical information or prices. The Polymer Corporation of Pennsylvania, Reading, Penna.

POLYPENCO® NYLON

nylon and teflon* / stock shapes...finished parts
also available to your specifications

*registered trademark of the Du Pont Company

▲ For more details circle NED-636 L3 on enclosed inquiry slip ▲

CHICAGO TRAMRAIL

JIB CRANES

FASTER HANDLING *at less cost*

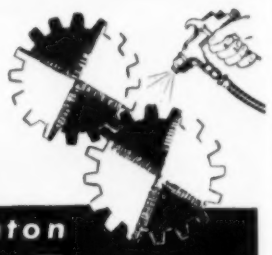
- 360° Swing • Self-Supporting
- Capacities from ½ ton to 5 tons
- Complete Line of Pillar, Mast and Wall Type Jib Cranes

Write for Catalog

CHICAGO TRAMRAIL CORPORATION
4000 West Washington Boulevard • Chicago 24, Illinois
OVER HEAD CRANES • STAK-RAK CRANES
MONORAIL SYSTEMS AND RACKS

▲ For more details circle NED-687 L3 on enclosed inquiry slip ▲

Adheres to gears longer—reduces lubricating costs!



Try NEW Houghton

TENAC

the tenacious open gear and cable lubricant

3 GRADES
TENAC L —light
TENAC M —medium
TENAC H —heavy

- No preheating necessary
- Fast-setting, non-brittle film won't flake off
- Easily applied by brush, spray, drip feed, or swab
- High lubricity and oiliness
- Water resistant—corrosion resistant
- Remains fluid in storage
- High penetration ability
- No chlorinated or toxic dilutions.
- High flash point reduces evaporation and fire hazard

Get full details and prices from the Houghton Man or write E. F. Houghton & Co., 303 W. Lehigh Ave., Phila. 33, Pa.

Products of...

E. F. HOUGHTON & CO.
PHILADELPHIA · CHICAGO · DETROIT · SAN FRANCISCO

Ready to give you on-the-job service...

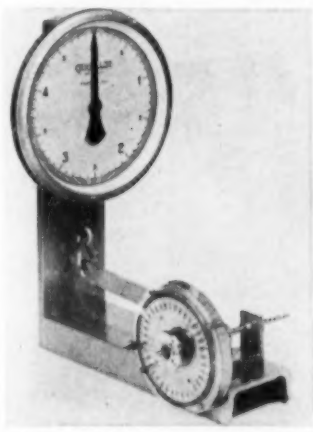
▲ For more details circle NED-688 L3 on enclosed inquiry slip ▲

VAPOR COLLECTOR
also collects machining sludge

Paddlewheel fans incorporated in adaptation of Dustkop model VCM-2 vapor collectors not only increase the air handling capacity of the unit but also resist the tendency of sludge-like material generated in abrasive belt grinding to load the fan. Mist from various machining operations, including grinding, is collected and can be returned to the coolant reservoir for reuse. Baffles intercept the direct "throw" of sludge and thus minimize need for cleaning within the collector. A ¾-hp motor is standard equipment and height has been increased 5½ in. Made by **Aget-Detroit Co.**, 201 Main St., Ann Arbor, Mich.

▲ For more details circle NED-689 L3 on enclosed inquiry slip ▲

TORSION SPRING TESTER
5 to 100 lb-in. capacities offered



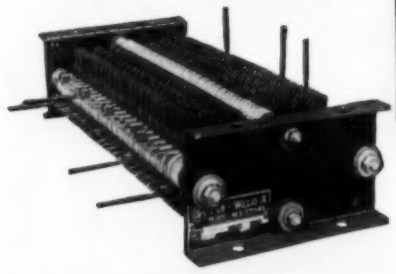
Both right and left hand torsion springs can be tested by the No. 942 medium capacity torsion spring tester. It is available in capacities from 5 to 100 lb-in. or the metric system equivalent. The 5 lb-in. model is shown. Dynamometer dials are graduated in increments of from 0.02 to 0.5 lb-in. Deflection dial is graduated up to 360 degrees in increments of 1 degree. Device is accurate to within 1 per cent. Different adapters are usually necessary for each type of spring. Made by **John Chatillon & Sons**, 93 Cliff St., New York 38, N. Y.

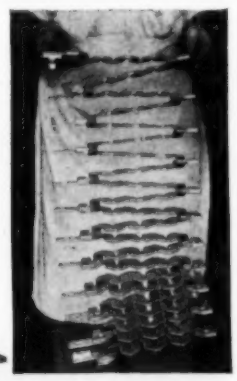
▲ For more details circle NED-690 L3 on enclosed inquiry slip ▲

DO YOU KNOW? Business and office machines ranging from simple card files to the complex UNIVAC electronic "brain" are now available on a new lease basis. Plan covers such items as electric or standard typewriters, calculators, adding and accounting machines, photocopying units, safes, desks, cabinets and production controls. Lease plan contains a purchase option clause under which all or a substantial portion of the amounts paid for rent can be applied toward purchase of the machines, if so desired. Plan developed by Remington Rand Inc., Dept. NED, 315 Fourth Ave., New York 10, N. Y.

▲ For more details circle NED-691 L3 on enclosed inquiry slip ▲

Low priced yet... it includes PREVENTIVE MAINTENANCE





TAB-WELD ▲

◀ TAB-WELD-X

"F.O.B." (FREE-OF-BURNING) Welded Plate Resistors—in continuous capacity sizes—13 to 150 amperes.

For less preventive-maintenance and lower costs, look to EC&M Welded Plate Resistors. Clamping-nut pressure may loosen under alternate heating and cooling, but the welded construction of EC&M TAB-WELD and TAB-WELD-X Sections stabilizes OHMIC values . . . *stops* burning at grid-eyes and at tap-plates. Also, many taps make on-the-job connections easy and readily permit small adjustments in resistance-value.

Write for NEW Bulletin 942

THE ELECTRIC CONTROLLER & MFG. CO.
2698 EAST 79TH STREET • CLEVELAND 4, OHIO

▲ For more details circle NED-692 L3 on enclosed inquiry slip ▲

FOR TOP-QUALITY FORGINGS FOR THE DC-6

Douglas counts on FLASH-O-LENS inspection

Soundness of forgings for the DC-6 can be determined more readily by using FLASH-O-LENS, reports Douglas Aircraft Co.

THE REASON: This handy device *spotlights* the work and *magnifies* it in sharp detail. Interpretation of grain structure — key to forging quality — is speeded up . . . results are more accurate.

You too may find that FLASH-O-LENS will save inspection time and improve product quality. Battery and plug-in models available — write for literature.

E. W. PIKE & COMPANY
492 NORTH AVE. ELIZABETH, N. J.

▲ For more details circle NED-693 L3 on enclosed inquiry slip ▲

MONARCH makes the complete line of solid industrial tires

THE MONARCH RUBBER COMPANY
501 Lincoln Park
Hartville, Ohio

▲ For more details circle NED-694 L3 on enclosed inquiry slip ▲

The Case of the PHANTOM TRACTOR

...that pulls in real profit!

Ask any operator why he equips his tractor with a Hyster Towing Winch. He'll tell you, "It's like having a second tractor up ahead all the time—ready to help you when you need it most". And that's another way of saying that a Hyster Towing Winch increases tractor pull by as much as 92% over drawbar pull.

Call your Caterpillar-Hyster Dealer today for full details or write:

HYSTER COMPANY 2906 N. E. Clackamas..Portland 8, Oregon 1806 North Adams Street..Peoria 1, Illinois

For more details circle NED-696 L3 on enclosed inquiry slip

PARTS CLEANING UNIT
for flushing, spraying and soaking

Abrasiveproof pump of the model H-95 "cold" parts cleaning unit delivers a gusher-like flow of cold parts cleaning solvent through a flexible metal hose. Adaptable for flushing, spraying or soaking of metal parts, dies, large bearings and assemblies, the unit measures 5 x 3 x 5 1/6 ft. Flow can be directed through another flexible hose with handgrip valve. Pump also circulates fluid in the tank by jet action. A self-cleaning disk type filter can be installed at the pump discharge. A three-level shelf supports parts which, when immersed, rest on a removable iron rack. Maximum tank capacity is 175 gal and minimum is 100 gal. Made by **Graymills Corp.**, Dept. C, 3717 N. Lincoln Ave., Chicago 13, Ill.

For more details circle NED-699 L3 on enclosed inquiry slip

Work with solvents? putty? molten metal?

TEST • STUDY • CONTROL
VISCOSITY
As Simply, Quickly and Easily as Taking Temperature Readings

WITH A Brookfield SYNCHRO-LECTRIC **VISCOMETER**

Adaptable to any problem from less than one to 32,000,000 centipoises. Send for illustrated catalog.

Just a flick of a switch, then read the Brookfield dial, and you have your viscosity determination in centipoises. The whole operation, including cleaning up, *takes only a minute or two.*

Available in a variety of models suitable for extremely accurate work with both Newtonian and non-Newtonian materials, Brookfield Viscometers are portable and plug in any A.C. outlet. *Write today.*

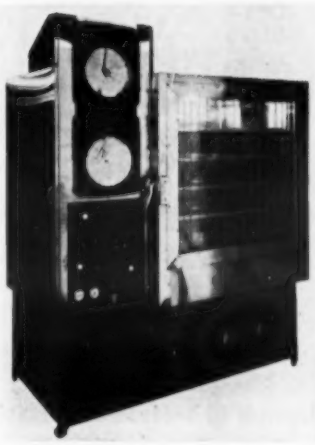
A well-known laboratory reports: "Our Brookfield Viscometer has been valuable for determining thixotropic behavior and has made possible more accurate viscosity determinations in solutions of high solids and/or high temperatures."

Write Dept. O., Stoughton, Mass.

BROOKFIELD ENGINEERING LABORATORIES, INC.

For more details circle NED-703 L3 on enclosed inquiry slip

ATMOSPHERE CABINET
for controlled moisture-vapor tests



All types of greases, packaging materials, plastics, fabrics, tools, foods and chemical or metallurgical samples can be moisture-vapor tested in the model 15-CF atmosphere control cabinet. Any type of testing within the limits of −20° F to 200° F can be conducted with a relative humidity of 18 to slightly under 100 per cent. Equipment can be specified with conventional or electronic controls. Made by **Package Materials Laboratories, Inc.**, Dept. FM-4, 461 Crescent Rd., Hatboro, Pa.

For more details circle NED-700 L3 on enclosed inquiry slip

DO YOU KNOW? "Tool and Die Making — Keystone of Mass Production" is a 22-minute 16-mm sound-color motion picture which not only shows mass production techniques in making diverse products, but features the craftsmanship needed in tool and die making. The work involved in obtaining a journeyman status is depicted by following an apprentice through an 8000-hour course. Film is available on loan or purchase from the National Tool and Die Manufacturers Association, 907 Public Square Bldg., Cleveland 13, O.

For more details circle NED-701 L3 on enclosed inquiry slip

in just 3 seconds

...you can read any surface temperature in your plant ... accurately and easily ... with the Alnor Portable Pyrocon.

Compact in size, complete in precision design and workmanship, this rugged instrument assures the highest standards of speed, accuracy and dependability. You can take temperature readings on materials in process, the finished product or the heated equipment itself—in as few as 3 seconds!

Alnor Portable Pyrocons come in scale ranges to 2000° F., with thermocouples for every application. You'll find full details on the Pyrocon exactly suited to your operations in Bulletin 4257. Send for your copy now. Write: Illinois Testing Laboratories, Inc., Room 529, 420 N. LaSalle St., Chicago 10, Ill.

Alnor PRECISION INSTRUMENTS FOR EVERY INDUSTRY

For more details circle NED-697 L3 on enclosed inquiry slip

RANDALL
THE ONLY PILLOW BLOCK WITH THESE OUTSTANDING FEATURES

WRITE FOR CATALOG NO. 109

DOUBLE LUBRICATION
QUIET OPERATION
SELF ALIGNING
LOW COST

Randall "deep well" pillow blocks are available for all standard shaft sizes in one-piece steel or two-piece cast iron housings for light, normal or heavy duty. The "deep well" ball assembly is also sold as a separate unit for integral inclusion in other original equipment applications.

BRONZE BAR STOCK
BRONZE BUSHINGS
PILLOW BLOCKS
SHEET LUBRICATOR

Randall

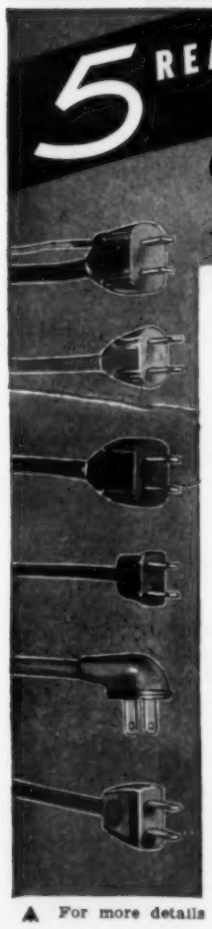
GRAPHITED BEARINGS
THRUST WASHERS
SAFETY COLLARS
BRONZE CASTING

RANDALL GRAPHITE BEARINGS, INC.

1007 S. Greenlawn Ave. Lima, Ohio

For more details circle NED-704 L3 on enclosed inquiry slip

5 REASONS FOR CALLING...
CORDS LTD.
For Cords and Cord Sets



★ Fast delivery on cords of standard construction.

★ Complete engineering and manufacturing service on cords for special applications.

★ Integrated engineering-production control from rod mill to mold department.

★ Most comprehensive stock of dies and molds for electronic cords and assemblies in existence.

★ Quality proved by use on millions of products.

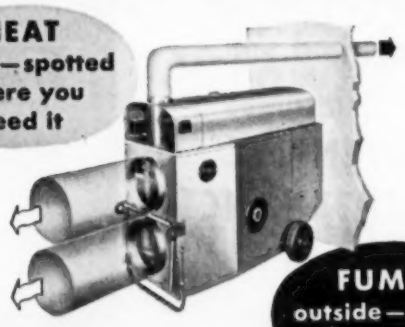
Write for details, explaining your application

CORDS LTD.
Division of Essex Wire Corporation,
121 DODGE STREET
DE KALB, ILLINOIS

WIRE SX PRODUCTS

For more details circle NED-698 L3 on enclosed inquiry slip

HEAT inside—spotted where you need it



FUMES outside—where they belong

SAFE **HERMAN NELSON**
PORTABLE AIR HEATERS

Get all the FACTS about all Portable Heaters. Write to American Air Filter Company, Inc., Dept. 114, Moline, Illinois.

Why take chances with temporary heat you can't always trust? Put Herman Nelson Portable Air Heaters on the job and have complete safety assured!

Herman Nelson heaters have vented, sealed flame heat and automatic safety controls. There's no danger of fire, no danger from carbon monoxide or other fumes, no danger of job-ruining smoke or soot. Combustion products are carried outside the working area—and clean, warm air is directed inside to any spot by flexible canvas ducts.

Be sure you get safety, dependability, performance—be sure you get Herman Nelson, the only complete line of completely safe Portable Air Heaters.

Herman Nelson Portable Air Heaters, another product of American Air Filter Company, Inc., Moline, Illinois.

For more details circle NED-702 L3 on enclosed inquiry slip

Model 8C's smooth, clean-cut design eliminates the multitude of clothes-catching, dirt-catching and knuckle-barking projections common to conventional metal cutting band saws.

AN ALL-NEW DESIGN . . .
FIRST TO MEET TODAY'S METAL CUTTING NEEDS!

You'll get performance never before available when you get the ALL-NEW Model 8C band saw. Designed to meet your metal cutting needs today—and for a *long time* to come—Model 8C embodies years of *Kalamazoo* experience in the field and the best industrial design talent.

Once you've *seen* the new 8C, you'll agree it has everything you've been looking for in an 8-inch metal cutting band saw. Ask your dealer for a demonstration *soon*—or write today for descriptive literature and the name of your dealer.

MACHINE TOOL DIVISION

Kalamazoo TANK and SILO CO.

1112 HARRISON ST., KALAMAZOO, MICHIGAN

For more details circle NED-705 L3 on enclosed inquiry slip

HEAVY-DUTY Foot Switch

Available with or without pedal guard, in several types

STREAMLINED to match modern machine styling • Heavy cast case, gasketed for oil-tight applications • Compact design—hugs floor—won't tip • Wide pedal, operable from three directions but protected against accidental contact or falling objects • Adjustable stroke. Short motion and slight angle eliminate ankle fatigue • Self-contained contact mechanisms easily wired or replaced • Snap action contacts, rated 600 volts pilot duty, A.C. or D.C.

Write for Bulletin 9002 AW. Square D Company, 4041 North Richards Street, Milwaukee 12, Wisconsin.

Ask Your Electrical Distributor for Square D Products

SQUARE D COMPANY

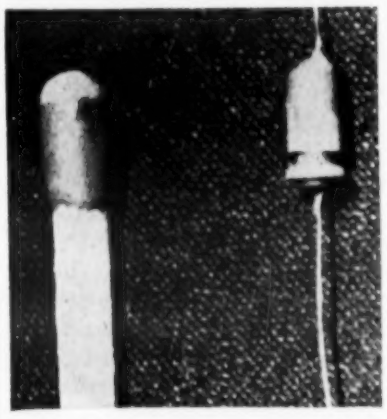
▲ For more details circle **NED-706 L3** on enclosed inquiry slip ▲

LIQUID HONING MACHINE
hydraulic unit is foot-controlled

Utilizing the liquid-abrasive process for cleaning and polishing all metal parts, this hydraulic honing machine incorporates foot controls and front panel which permits sit-down operation. Large inspection port is placed at a natural vision angle. Other features include an automatic drain to speed abrasive changeover, 1200-w interior illumination system, and blower system that completely changes interior air every three seconds. Unit has a special pump which eliminates pump packing contamination and permits the abrasive carrying fluid to bypass all bearings. Made by **Hydro-Hone Mfg. Co.,** Dept. A, 6829 Rita Ave., Huntington Park, Calif.

▲ For more details circle **NED-709 L3** on enclosed inquiry slip ▲

TANTALUM CAPACITOR
tiny companion for transistor



Small in size, yet designed with high capacity for low voltage, direct current applications, the micro-miniature tantalum capacitor will make possible size reductions in miniaturized assemblies using transistors. It measures 5/16-in. long and ⅛-in. diameter. Other features are long shelf and operating life, low leakage current and utilization of a nonacid electrolyte. Operating range is from −20 to 50° C. Available ratings are from 2 to 16 v, 4 to 0.7 mfd, respectively. A larger, ½-in. long capacitor has same voltage range, but with 8 to 1.5 mfd rating. Made by **General Electric Co.,** Schenectady 5, N. Y.

▲ For more details circle **NED-710 L3** on enclosed inquiry slip ▲

DO YOU KNOW? Fifty-nine practical conference sessions comprise the program of the three-day Plant Engineering & Maintenance Conference at the Hotel Conrad Hilton, Chicago on Jan. 25-27, 1954. This meeting will be held in conjunction with the Plant Maintenance & Engineering Show which is scheduled for the International Amphitheatre in Chicago Jan. 25-28, 1954. Advance registration cards and hotel information can be obtained from Clapp & Poliak, Inc., 341 Madison Ave., New York 17, N. Y.

▲ For more details circle **NED-711 L3** on enclosed inquiry slip ▲

THOMAS DRAIN RACKS

A one-man operation for storing and draining barrels.

ROCK—Simply push drum away from you with one hand. Slide drain stand under chime of drum.

It's simple — operator simply slides edge of rocker under barrel and rocks barrel towards him to horizontal position. Comes with wheels and casters (No. BRW) so barrel and stand can be moved about. Also without wheels (No. BR).

PUSH—Put both hands on top of drum and push drain stand as far as possible without lifting.

ROLL—Take hold of the drum as shown in picture, then roll it over into horizontal position. THAT'S ALL!

Available with or without wheels in 18" and 24" heights.

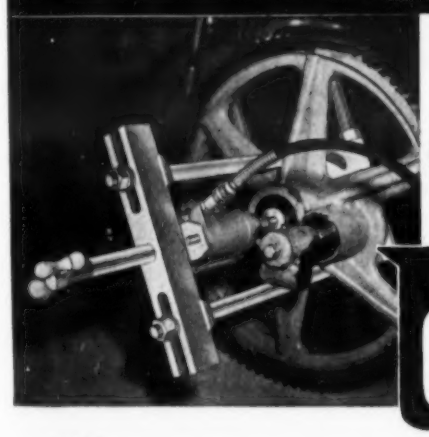
Send for Free Literature

THOMAS TRUCK & CASTER CO.

367 Mississippi River, Keokuk, Iowa

▲ For more details circle **NED-713 L3** on enclosed inquiry slip ▲

PUSH...PULL 75% FASTER 90% EASIER



WITH THE CENTER HOLE

OTC

50 TON HYDRAULIC PULLER

Removes or installs bearings, gears, pinions, shafts, studs, wheels, pulleys, etc.—75% faster and 90% easier. This new OTC 50 ton ram is completely portable (weighs only 45 lbs.)—has remote control pump—interchangeable ram heads—and can be used as a production holding fixture. Also available in 17½ and 30 ton sizes. *Booklet describes complete line and uses of OTC equipment.*

WRITE FOR FREE BOOKLET

OWATONNA TOOL COMPANY

436 CEDAR STREET • OWATONNA, MINN.

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FOR COMPLETE PROTECTION

FROM THE WET • GREASE • OILS • ORDINARY ACIDS

TOWER'S

FISH BRAND

*NEOPRENE

These sturdy, durable, 100% DuPont **NEOPRENE** garments give that extra service to those who require protection from greases, oils, and most acids. There is a TOWER protective garment especially adaptable for every type of industrial activity. We will be glad to recommend the garment which best meets your individual requirements.

**A chemical rubber product of the DuPont Company*

For folder of styles and detailed information write Department SF.

NEOPRENE RUBBER

TOWER'S FISH BRAND

A. J. TOWER CO.

24 SIMMONS ST. BOSTON, MASS.

TOWER'S ARROW BRAND

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ENAMELSTRIP

STEEL · ALUMINUM · BRASS · PRE-FINISHED COLOR COIL

assures a

perfect finish

before fabricating

You can easily cut production time and cost with Enamelstrip, the continuous-feed, pre-colored metal coil. Leading manufacturers of metal products are using it with outstanding results in a wide variety of items. Enamelstrip's exclusive, flexible finish withstands the stresses of drawing, bending and forming without cracking or peeling. Many companies have entirely eliminated their finishing departments! Any metal in any finish will be coated and slit to your own specifications.

Write TODAY for detailed color bulletin.

THE COATED COIL CORPORATION

507 West 30th Street, New York 1 • LOngacre 5-3161

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These Simple Units Add Up to **INCREASED PROPERTY PROTECTION and LOWER INSURANCE RATES!**

THE CHICAGO WATCHCLOCK SYSTEM

Quickly Pays for Itself!

The CHICAGO WATCHCLOCK system is so reliable, users are given lower insurance rates. The CHICAGO System enables reliable watchmen to PROVE they're on the job. It keeps a permanent record of their performance ... YOU get extra protection against FIRE, THEFT and SABOTAGE.

Send for FREE booklet that explains the operation of the CHICAGO WATCHCLOCK System and how this low-priced installation is made quickly with only a screw driver! Write to

CHICAGO WATCHCLOCK

Division Great Lakes Industries, Inc.

1522 S. WABASH AVE., CHICAGO 5, ILL.

Offices in Principal Cities

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Ability to predict with a high degree of certainty the results obtainable from a cutting tool is a worthwhile asset — developed through knowledge and experience, acquired either firsthand or from other users of known repute.

It's a satisfaction to know beforehand that the tool chosen for a job will turn out well—has inherent properties that assure consistently good performance.

Foresighted metalworkers have learned to rely on Kennametal. It is noted for doing one good job after another, day in and day out, as demonstrated by scores of regularly-issued Performance Reports.

Our accumulated knowledge and experience on how to "call the turns" on a wide variety of applications is yours for the asking. Our Field Engineers will be glad to help you. Kennametal Inc., Latrobe, Pa.

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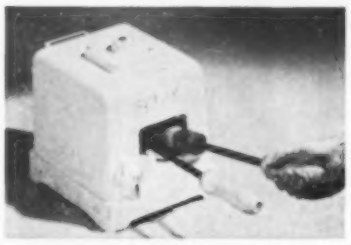
SOLDERING FURNACE
radiant burner is heat source



Gas-fired soldering furnace, using radiant burner as heat source, will heat two 4-lb irons to 900° F, or one 4-lb iron to 1200° F, in less than 8 minutes, with heat input of only 9100 Btu per hour. Heating is accomplished without flame impingement, yet soldering copper is surrounded by fully-burned gases which prevent oxidation and burning of copper. Low heat input plus insulating lining assure relatively low temperatures in furnace casing. Tilted shelf prevents escape of much of excess heat which is carried off through flue instead. Made by **Selas Corp. of America,** D St. & Erie Ave., Philadelphia 34, Pa.

▲ For more details circle **NED-718 L3** on enclosed inquiry slip ▲

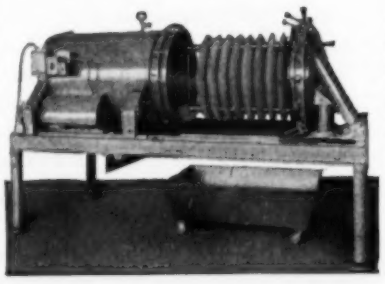
BALL BEARING CLASSIFIER
sorts into any of ten groups

Segregating ball bearings into any of ten dimensional classifications after gaging is easily done with the use of this classification tray used in combination with a visual gage. Balls are gravity fed from a V-trough and are then moved under a gaging spindle. Reading is taken, and the tray moved until indicated compartment is under the ejection chute. Ball is released, and rolls to its proper place. Instrument makes it possible to classify ball sizes in increments of ten-millionths (0.000010-in.). If required, tray can have more or less than ten compartments. Made by **Sheffield Corp.,** 721 Springfield St., Dayton 1, O.

▲ For more details circle **NED-719 L3** on enclosed inquiry slip ▲

TANK FILTER
retractable for easy cleaning

Available in capacities of 100 to 2000 sq ft of filtering surface, model MCR retractable tank filters can be opened so that all plates are exposed in 60 seconds.



Tank retracts without disconnecting pipes so that one man can clean 2000-lb cake and have filter back in operation in 30 minutes. Filter plates can be spaced to accommodate cake of any thickness and for removal of large percentage solids. The circular double surface screen plates are reinforced to withstand high filtering pressure without collapsing. Tanks can be made in any metal to meet chemical requirements or lined with rubber or plastic for corrosion resistance. Made by **Sparkler Mfg. Co.,** 203 Lake St., Mundelein, Ill.

▲ For more details circle **NED-720 L3** on enclosed inquiry slip ▲

TRUCK-MOUNTED HOIST
capacity to 500 lb per lift

Handling loading and unloading operations involving up to 500 lb loads, Magic-Muscle is an electrically-powered hoist traveling on a monorail boom mounted on the truck bed behind the cab. Unit is 110-v generator powered from a gasoline engine and fits all trucks or trailers with bed lengths from 12 to 27 ft. Hoist is operated by one man, and handles such loads as concrete blocks, crates, pallets, drums, sacks, bags, bales and boxes. A heavy-duty steel bed is optional at extra cost. Made by **Wm. Bros. Boiler & Mfg. Co.,** Dept. N, 1057 Tenth Ave. S.E., Minneapolis 14, Minn.

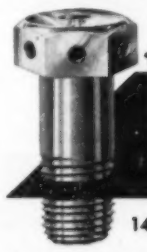
▲ For more details circle **NED-721 L3** on enclosed inquiry slip ▲

cold forged **precision cap screws**

CHANDLER fasteners are manufactured from the highest quality steel, selected to meet requirements of load or stress encountered in service. They are precision formed to exact specifications to insure accuracy and quality. This uniform high quality makes assembly faster, and smoothly finished heads assure good appearance of completed assemblies.

CHANDLER specializes in the manufacture of cold forged metal fasteners for the automotive, aviation, transportation and farm implement industries. For complete uniformity and accuracy of production, specify **CHANDLER.**

1305-CH



Specialists in Thread-Rolling After Heat Treating

CHANDLER PRODUCTS CORPORATION

1495 Chardon Road • Cleveland 17, Ohio

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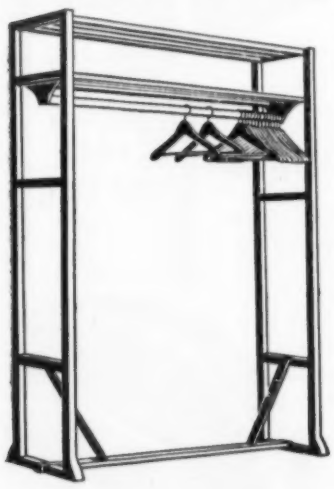
Checkerette

This "knock-down" wardrobe rack answers almost any "wraps" problem, because it can be set up anywhere in a few minutes without nuts, bolts or tools . . . can be disassembled and stored in small space when not in use. It is ideal for installation near point of work, occupies only 1′ x 4′ floor-space; is ideal for company cafeterias, offices, laboratories and meeting rooms.



It will hold wraps by day and shop coats at night and keep both aired and dry.

Modern, efficient designs, welded steel construction, rigid in use (all members held under tension).

Write for Circular CT 08

VOGEL-PETERSON CO.
1121 West 37th St. • Chicago 9, Ill.

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RUGGED, DEPENDABLE, ACCURATE GAUGES *For Every Purpose*

If you have requirements for pressure, temperature, flow, level or electrical measuring instruments, for the products you make or for manufacturing operations, it will pay you to consult with U.S. Gauge, the world's largest manufacturer of accurate instruments.

Write today and tell us about your requirements.

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Division of American Machine and Metals, Inc.
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Company _____
Address _____ City _____ State _____

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if it's a **WITT** *it's guaranteed*

Compare WITT CAN and PAIL features with others on these points . . .

STRAIGHT SIDES— assure extra resistance to rough handling.

DEEP ROLLING CORRUGATIONS— run full length of Can adding further rigidity.

HEAVY GAUGE STEEL— provides battleship ruggedness.

STRUCTURAL STEEL BANDS— protect top and bottom of Can and act as shock absorbers.

HOT DIP GALVANIZING— a hand process after fabrication, insuring heaviest possible rustproofing.

PINCH PROOF HANDLES— for easy handling.

STURDY LID— snug fitting yet easy to remove.

WITT CANS and PAILS are guaranteed to outlast 3 to 5 ordinary CANS. That's your assurance of the highest standards of workmanship and material. WITT CANS and PAILS are designed to last longer . . . constructed to survive the most severe weather, wear, even deliberate abuse. It's no wonder that there are many WITT CANS and PAILS still in excellent condition after five, ten, yes even fifteen and more years of service

WITT CANS and PAILS HAVE THE "RIGHT" ANGLE

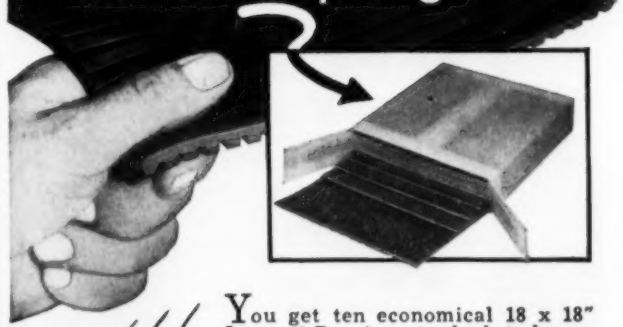
Witt Cans

"Originators of the Corrugated Can"

THE WITT CORNICE COMPANY 2124 Winchell Ave., Cincinnati 14, O.

▲ For more details circle **NED-723 L3** on enclosed inquiry slip ▲

Get proof of vibration-control with even one package



You get ten economical 18 x 18" ISOMODE* PADS in a standard stockroom package. At the recommended Pad loading of 50 lbs per sq. in., this gives you enough mountings for up to 80 TONS OF MACHINERY. Simply cut to required size, place the pads under legs or base—and you begin to see proof of vibration-control with benefits like these:

Machines stay put without bolts or lag screws . . . Noise diminishes . . . Even punch press shocks are absorbed . . . Machines stay tighter longer . . . Less cracks in floor and building.

Write for prices and detailed Bulletin No. 415.

**Trade Mark*

ISOMODE* PADS are produced by

THE MB MANUFACTURING COMPANY, INC.
1066 State Street, New Haven 11, Conn.

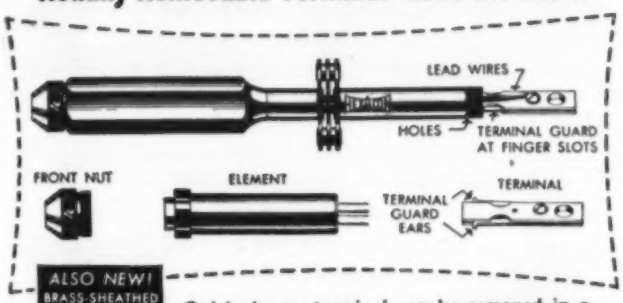
▲ For more details circle **NED-724 L3** on enclosed inquiry slip ▲

NOW! CHANGE SOLDERING IRON ELEMENTS IN A JIFFY!

—with HEXACON

*Patent Applied For

Readily Removable Terminal* does the trick!



ALSO NEW! BRASS-SHEATHED ELEMENTS Easier to Replace—Better Protection

Write for catalog showing 40 industrial soldering irons of every type and size.

Quick-change terminal can be removed in a second or two, permitting replacement of element in a fraction of the usual time. By simply depressing terminal guard at the finger slots, the terminal comes out in a jiffy – no longer necessary to fish element lead wires around terminal.

HEXACON — Industry's No. 1 Soldering Iron

HEXACON ELECTRIC COMPANY
145 W. CLAY AVE., ROSELLE PARK, NEW JERSEY

For more details circle NED-725 L3 on enclosed inquiry slip

You get a Complete Package with a

RIVETT Power Unit!

Rivett offers the Series 9100 Power Unit as the ideal source of power for your hydraulic circuit. The unit is equipped with pump, relief valve, oil filter, pressure gauge, and all equipment necessary to furnish a steady flow of oil at continuous working pressures up to 1000 P.S.I. Reservoir is available in 5 tank sizes, with pump capacities from .4 G.P.M. to 40 G.P.M. Motor mounting may be arranged for any standard frame. Series 9200 with double pumps are supplied for two separate circuits of different pressures.

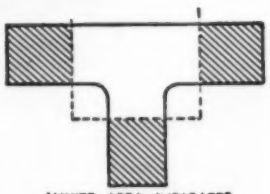
Write for Catalog showing specifications and description of Rivett Hydraulic Power Units.

RIVETT LATHE & GRINDER INC.
Brighton 35, Boston, Mass., Department NED-11.

For more details circle NED-726 L3 on enclosed inquiry slip

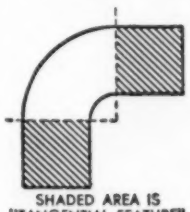
How the Speedline "TANGENTIAL FEATURE" cuts stainless piping costs

Now you can save up to 50% on corrosion-resistant lines by using light wall stainless pipe and versatile Speedline Fittings.



WHITE AREA INDICATES CONVENTIONAL FITTING

The added straight section of corrosion-resistant Speedline Fittings permits attaching unions or flanges without fouling... reduces number of welds required... simplifies installation... eliminates angle joints.



SHADED AREA IS "TANGENTIAL FEATURE"

SEND FOR LATEST INFORMATION

Write a note on your company letterhead to get the complete story on the many cost-saving advantages of the Speedline System for process piping.

Speedline distributors are located in principal cities from coast to coast

HORACE T. POTTS CO. Since 1815

532 E. Erie Avenue, Philadelphia 34, Pa.

For more details circle NED-727 L3 on enclosed inquiry slip

WIRE WRAPPING TOOL makes electrical connections

Wire-wrap connections made with appropriate terminal and wire sizes and wrapped by Wire - Wrap tools are both mechanically and electrically equal to soldered connections. Tool is also capable of replacing the hand method of wrapping wire on terminal prior to soldering. Method can be used on most existing terminal designs. Air tools with straight or pistol grip handle and an electric tool with pistol grip handle are being made. Wrapping bits are available for 20, 22, or 24-gage wire on terminals with a maximum width of 1/16, 3/32 or 1/8-in. Made by **Keller Tool Co.**, Wire-Wrap Div., Dept. N, Grand Haven, Mich.

For more details circle NED-728 L3 on enclosed inquiry slip

POWER FEED ACCESSORY for hand screw type mills

All Benchmaster hand screw type mills can be equipped with an accessory power feed which mounts on the end of the table. It is housed in lightweight alloy castings and is driven by an electric motor operated worm and gear unit. Power developed exceeds milling capacity of the machine. Table speeds are 1.2, 2.1, 3.2 and 4.5 ipm. Travel is reversible, and automatic stops can be set for any desired length of stroke. A disengage lever permits manual operation. Made by **Benchmaster Mfg. Co.**, Dept. NED-11, 1835 W. Rosecrans Ave., Gardena, Calif.

For more details circle NED-729 L3 on enclosed inquiry slip

DO YOU KNOW? Residential heating and air conditioning without combustion apparatus or use of water is possible with electrically driven type HP heat pump equipment. Other connections are condensate drain, and supply and return air ducts. Reverse cycle refrigeration is employed to heat in winter and dehumidify and cool in summer. Unit also provides ventilation, circulation and cleaning of air. Two sizes have capacities of 30,000 and 50,000 Btu per hr. Made by Westinghouse Electric Corp., Air Conditioning Div., Dept. T-356, 200 Readville St., Hyde Park, Boston 36, Mass.

For more details circle NED-730 L3 on enclosed inquiry slip

HARDINGE ELMIRA, N.Y. COLLETS for LATHES and MILLERS

Precision work requires precision collets. HARDINGE Draw-in Collets assure you of all-essential accuracy plus durability and economy . . . performance that has established leadership since 1890.

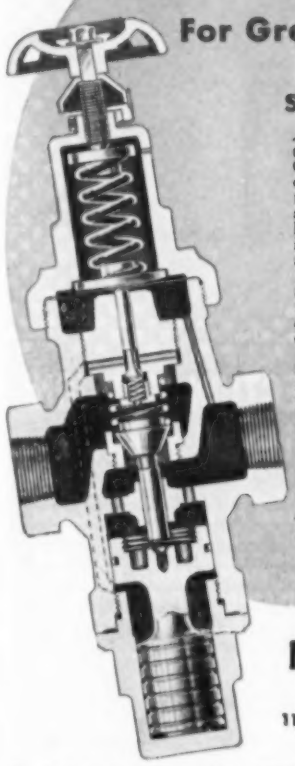
HARDINGE Collets symbolize accuracy, long life, and low cost because they are hardened and ground both internally and externally, have heat treated threads — and cost no more than ordinary collets.

HARDINGE COLLETS
For All Lathes and Automatics
Backed by 60 Years of Manufacturing Experience

HARDINGE BROTHERS, INC., ELMIRA, N. Y.

For more details circle NED-731 L3 on enclosed inquiry slip

Superfinished For Greater Accuracy



Masoneilan No. 11 Steam Reducing Valve

All vital parts on this better-than-ever Masoneilan Pilot Operated Steam Pressure Reducing Valve are superfinished. Result, chances of sticking or corrosion are largely eliminated. Operation is extremely sensitive — more accurate than ever before.

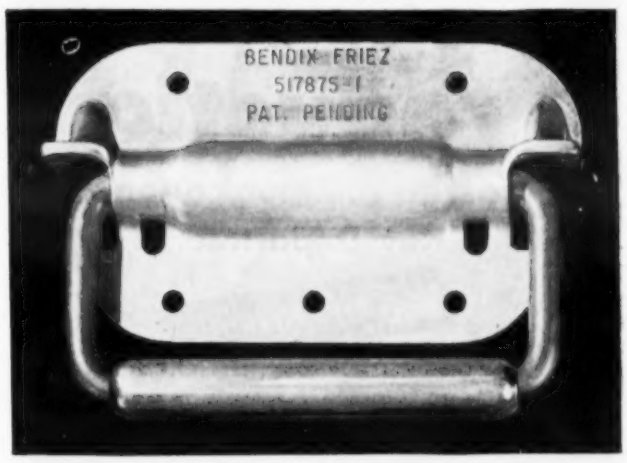
What's more, service records indicate maintenance consists of *little more than keeping the moving parts clean.*

Initial pressure to 250 lbs. reduced to any desired pressure from 10 to 90 lbs. or 75 to 225 lbs. Sizes ½" to 2" bronze body. Also iron or steel.

Call your local Mason-Neilan Industrial Distributor for fast, dependable service.

MASON-NEILAN REGULATOR CO.
1189 Adams St., Boston 24, Mass., U. S. A.

For more details circle NED-732 L3 on enclosed inquiry slip



A NOISELESS HANDLE!

For manufacturers of portable equipment, carrying cases, parts, boxes . . . or anything that has to be lifted.

What's a large instrument manufacturer doing making handles?

We couldn't seem to find one for our own use that pleased us . . . so we made one ourselves.

Manufacturers who saw it and needed a better handle liked it. It was rust-proof. It recessed. It was rattle-proof. It has a patented "snap-back" principle. It withstands shock and vibration. It's truly rugged.

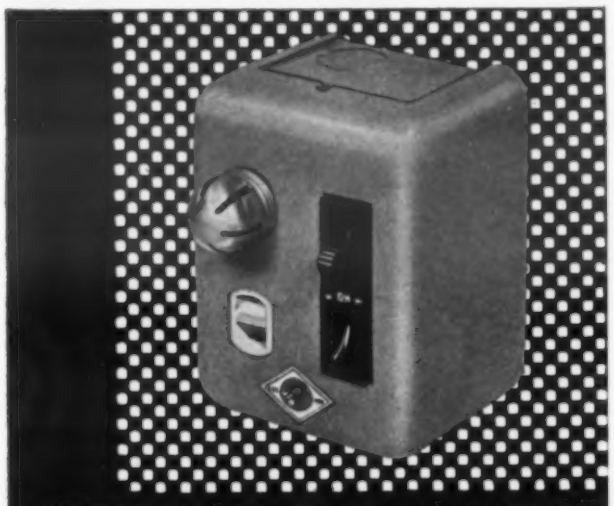
Since then, we've had a great many inquiries about our handle. They range from an aircraft manufacturer who has ideas about a flexible cargo fuselage . . . to a man who crates turtles for shipping . . . to the man who put rockets together for shipment.

But if you've got something that's got to be lifted by handles . . . chances are this Bendix-Friez handle is for you.

Built of aluminum and stainless steel, it can be riveted or welded to any kind of container or depressed in the sides. Small or large quantity orders. Inquiries answered promptly.

BENDIX FRIEZ
FRIEZ INSTRUMENT Division of Bendix Aviation Corporation
1444 Taylor Ave., Balto. 4, Md.
EXPORT SALES
Bendix International Division
204 E.42nd St., New York 17, N.Y. U.S.A.

For more details circle NED-733 L3 on enclosed inquiry slip



INDIVIDUAL PROTECTION STATION
. . . install anywhere

SAFELETS are on-the-spot protection either for your circuits or the equipment plugged-in. Used on assembly lines, test benches or for specific appliances, a Safelet can isolate a short circuit power interruption to this one receptacle . . . avoiding production stoppages. Employing HEINEMANN hydraulic-magnetic circuit breakers, Safelets can be turned ON immediately after the fault has been cleared . . . there is no waiting to reset.

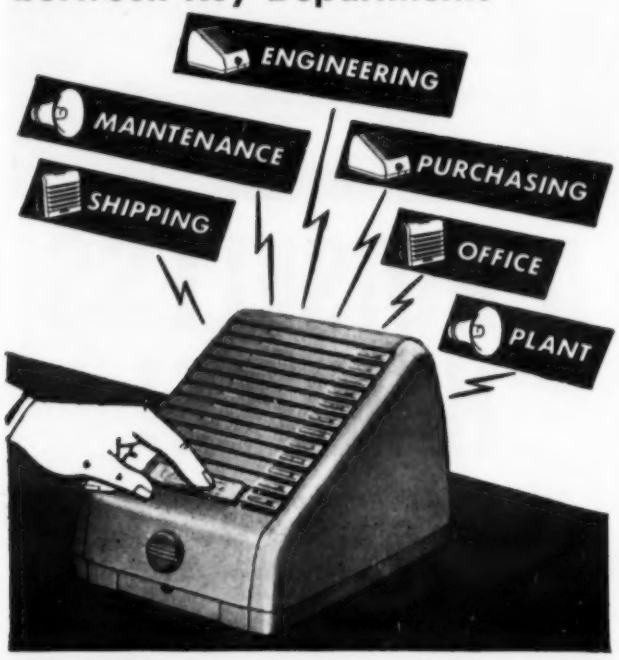
Available in ratings up to 15 amps. or 1 HP, with or without pilot light, and in various female receptacle styles. WRITE FOR BULLETIN NO. 1010.

HEINEMANN ELECTRIC CO., 106 Plum St., Trenton 2, N.J.

▲ For more details circle NED-734 L3 on enclosed inquiry slip ▲

Step Up Production

with faster communication between Key Departments



EXECUTONE Intercom puts every department at your fingertips—*instantly!*

Production moves faster when you don't have to wait for information. With Executone you talk to any department, anywhere in your office or plant—*instantly!* No time lost running back and forth. No waiting on "busy" inside phones. You get more work done—*faster!*

In the NEW Executone voices are amazingly crisp and clear. Installed and serviced by Executone-trained technicians. Low cost Executone soon pays for itself in dozens of ways.

Executone

GET THE FACTS **INTERCOM SYSTEMS**

EXECUTONE, INC., Dept. L-4
415 Lexington Ave., New York 17, N. Y.
Without obligation, please send me full data on Executone Intercom. I am particularly interested in:

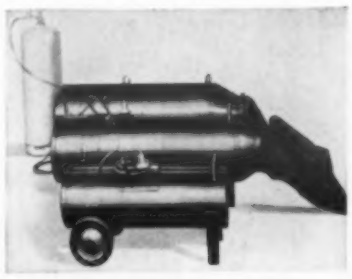
☐ INTER-OFFICE COMMUNICATION ☐ SWITCHBOARD RELIEF
☐ INTRA-PLANT COMMUNICATION ☐ INVENTORY CONTROL
☐ MATERIALS HANDLING CONTROL ☐ LOCATING PERSONNEL

Name.....Title.....
Firm.....
Address.....City.....

In Canada—331 Bartlett Ave., Toronto

▲ For more details circle NED-735 L3 on enclosed inquiry slip ▲

PORTABLE HEATER
LP gas unit has automatic firing



Offered in a range of five models with 140,000 and 950,000 Btu output, Eco-Temp portable heating unit is fueled by LP gas and has automatic firing. The necessary gas tanks remain on the job, and the heater unit is wheeled to them. Unit is connected to gas tank and to electric outlet for operation. It is reported to have a quick rise to operating temperature and gives wide-coverage heat without smoke or odor. Flameproof heat ducts for spotting the output are available. Made by **Arthur C. Baumann,** 7019 Grays Ave., Philadelphia 42, Pa.

▲ For more details circle NED-736 L3 on enclosed inquiry slip ▲

PRESS GUARD
operates on sweep action principle

Guard for small power and kick presses operates on the sweep action principle of an adjustable guard arm functioning with the downward motion of the ram. When the press is not operating, the guard arm remains out of the operator's way at the extreme left or right hand side of the press. When the pedal is pushed to operate the press, the guard arm sweeps beyond the press feed area on half the downward stroke, pushing aside the operator's hands or fingers before the dies close. It can be made to sweep between the upper and lower dies before they close. Installation requires the drilling and tapping of only one hole in most cases. Made by **Searjeant Metal Products, Inc.,** 89 Pittsford Rd., Mendon, N. Y.

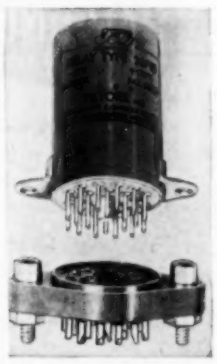
▲ For more details circle NED-737 L3 on enclosed inquiry slip ▲

ELECTRONIC SPOTWELDER
useful for production operations

Model 1015 Unimatic Weldmaster electronic spotwelder is designed for production joining of light metals and wire as found in instrument, electronics and precision component industries. It is well-adapted for use with jigs and fixtures, and can also be converted rapidly to tweezer-type operation. Circuit is of the capacitor-discharge type, storing a preset load of energy and releasing it when welder is triggered. Operation is by foot pedal, and unit is portable. Firing pressure is adjustable from 2 to 25 lb, power line demand is 500 w and surge energy discharge rating is approximately 120 kw maximum. Made by **Unitek Corp.,** Dept. NED, 275 N. Halstead Ave., Pasadena 8, Calif.

▲ For more details circle NED-738 L3 on enclosed inquiry slip ▲

PLUG-IN RELAY
subminiature sealed type



High torque factor to size and weight ratio is featured by the rotary motor of the type 26P18 subminiature hermetically sealed relay. Contact mechanism is designed to resist severe shock and vibration. Unit is intended for operation at nominal voltage of 26.5 v dc. It is made in range of coil resistances up to 19,000 ohms for plate circuit applications. Contact arrangement is break-before-make and is rated at 3 amp resistive load, 1.5 amp inductive load and 12 amp overload. Other contact arrangements are available for the 1 x 1 9/16-in. relay. Made by **Filtors, Inc.,** Electroquipt Controls Div., Dept. R, 30 Sagamore Hill Dr., Port Washington, N. Y.

▲ For more details circle NED-739 L3 on enclosed inquiry slip ▲

▲ For more details circle NED-740 L3 on enclosed inquiry slip ▲

NEW better way of maintaining accurate liquid level

Bulletin describes operating principle of Fenwal DETECT-A-FLO

If accurate, fool-proof maintenance of liquid level (within .1") is important to you, then you will want to know more about the Fenwal DETECT-A-FLO unit.

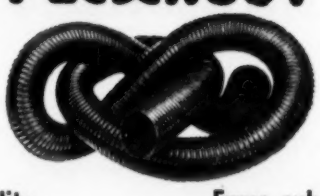
No gauges, no floats, no exposed moving parts. Instead, the device contains a constant heat source, and operates on a heat transfer principle. It employs a Fenwal THERMOSWITCH® element which is actuated whenever there is a rise or fall of liquid level beyond the point where the unit is placed. Ambient compensated, hermetically sealed, it is compact and resistant to vibration and corrosion. Easy to install, nothing to wear out, to stick, or clog!

The newly developed Fenwal DETECT-A-FLO will bring improved dependability and accuracy in problems of liquid-level maintenance. Complete engineering data is ready now. For more information, send for your free copy of bulletin. Write **Fenwal Incorporated, 811 Pleasant Street, Ashland, Mass.**

Fenwal DETECT-A-FLO
Electric Temperature Control and Detection Devices

▲ For more details circle NED-741 L3 on enclosed inquiry slip ▲

CUT COST with FLEXAUST*



SIZES 1¼ in. ID to 36 in. ID

the high-quality spiral-wire reinforced hose *for* Fume exhaust / Dust or chip collection / Ventilation / Movement of materials

FLEXAUST enables you to cut hose costs because it's:
EASY TO INSTALL – Anyone can install FLEXAUST quickly.
DURABLE – Highly resistant to abrasion, aging, corrosion, moisture, chemical deterioration, flexing fatigue.
LIGHT – Weighs only ⅓ as much as comparable metal pipe.
HIGHLY FLEXIBLE – Maintains large sections on sharp bends; no kinking, no flattening.
STRONG – Bonded, double ply, double overlap construction.
AIRTIGHT – Ideal for either pressure or suction.

For details on sizes, coatings, accessories, flow characteristics, write for Catalog 35.

*Trade-marks

THE FLEXAUST COMPANY
Dept. NE11 100 Park Avenue, New York 17, N. Y.
Formerly American Ventilating Hose Co.

FLEXAUST* PORTOVENT* BLOFLEX*

▲ For more details circle NED-742 L3 on enclosed inquiry slip ▲

Produce MORE STEAM... in LESS SPACE... at LOWER COST!

WITH

CYCLOTHERM* CYCLONIC COMBUSTION

● In thousands of installations, Cyclotherm Steam Generators set new standards for performance and economy. Exclusive Cyclotherm flame control produces 66% more power per sq. ft. of heating surface than competitive type boilers and requires only 3 sq. ft. of heating surface per Boiler Horsepower . . . saving up to ⅓ on installation space.

- Guaranteed 80% efficiency
- Complete on arrival. Only 4 easy connections
- Fully automatic controls
- Full power operation in 15 minutes

Cyclotherm Steam Generators are designed for 18 to 500 h.p., 15 to 200 psi operating pressures. Approved—ASME, Nat'l. Board Standards, Underwriters Laboratories, Inc.

*Reg. trade name

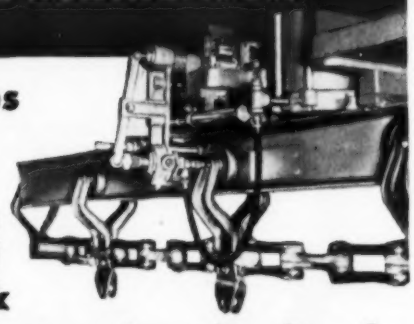
Write for free catalog today. Dept. 40

CYCLOTHERM* STEAM GENERATORS

CYCLOTHERM DIVISION UNITED STATES RADIATOR CORP.—OSWEGO, NEW YORK

For more details circle NED-743 L3 on enclosed inquiry slip

NEW! ALEMITE AUTOMATIC CONVEYOR TROLLEY WHEEL LUBRICATOR



Lubricates every wheel on both sides of the track

without stopping the line!

- No lubrication downtime
- Requires no floor space
- Reduces work spoilage
- Eliminates lubrication hazards
- Serves 3", 4", and 6" wheels at speeds up to 75 ft. per minute
- Fits right into existing line
- Lubricates over four miles of wheels on one filling

goes to work at the flip of a switch!

Write for full details

ALEMITE

Dept. NED-113, 1850 Diversey Parkway
Chicago 14, Illinois

A PRODUCT OF SW

For more details circle NED-744 L3 on enclosed inquiry slip

New Bond S-L-U* DRUM TRUCK

. . . for faster, easier handling

- Spring action chime hook.
- Floating axle with rolling motion.
- Rugged all steel welded construction.
- Two wheel types: vulcanized-on rubber tread or semi-steel.
- Rests in tilted position for maximum drainage.
- Stands upright for safe storage.

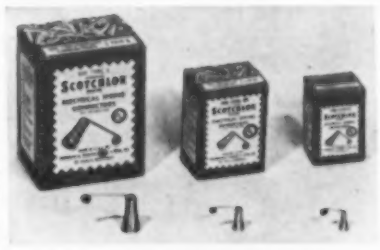
The *new* Bond *Self-Loading and Unloading Drum Truck takes "the work" out of lifting, moving and draining either drums or barrels . . . and speeds the job at that! Like every hand truck in the full Bond line, this drum truck is designed and built to give extra service, extra satisfaction!

Write today for your copy of Bond Bulletin R-61 . . . it gives all the facts on the new Bond Drum Truck.

BOND FOUNDRY & MACHINE COMPANY
Manheim, Pennsylvania

For more details circle NED-745 L3 on enclosed inquiry slip

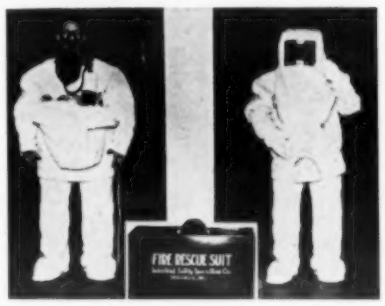
ELECTRICAL SPRING CONNECTOR
large and small sizes added to line



Large and small sizes of the Scotchlok electrical spring connector for making splices in electrical wiring have been added to the medium type previously available. With these additions, line of connectors can be used on all wire sizes from No. 6 to 18 AWG, either solid or stranded, in several hundred combinations. Made of zinc-plated steel wire in form of tapered coil spring, the UL-approved lubricated connectors easily screw on stripped ends of wires with fingers. Notched turning stem provides leverage for application, then snaps off to leave splice with no sharp ends. Tension grip on wires is shake-resistant. Made by **Minnesota Mining & Mfg. Co.,** Dept. NED, 900 Fauquier St., St. Paul 6, Minn.

For more details circle NED-746 L3 on enclosed inquiry slip

FIRE RESCUE SUIT
field tested to 1800° F



Field tested at temperatures up to 1800° F, Issco fire rescue suit weighs only 28 lb and can be donned without assistance in less than 1 minute. Layer-type construction uses such materials as asbestos cloth, fiber glass and vinyl-treated glass cloth. One-piece trousers completely cover feet, legs and lower abdomen, and shoe sections are double thickness throughout. Hood section contains a large laminated-glass safety visor and has ample room for self-generating breathing equipment. Gloves have long wide gauntlets. A rescue blanket made of same material as suit is also available. A carrying case measuring 12 x 15 x 19 in. houses complete equipment. Made by **Industrial Safety Specialties Co.,** 801 Chestnut St., Perkasie, Pa.

For more details circle NED-747 L3 on enclosed inquiry slip

DO YOU KNOW? Even chain link band files can be resharpened through reconditioning service being offered for all types of American, Swiss and Vixen pattern files. Files sent in for reconditioning are carefully inspected, rustproofed, boxed and labeled, with those files not passing inspection being returned as culls for which there is no charge. Company offers free trial reconditioning of 1 to 12 flat files for new customers. Write to Service File Sharpening Co., 4461 W. Jefferson Ave., Detroit 9, Mich.

For more details circle NED-748 L3 on enclosed inquiry slip

DO YOU NEED BOTH ROUND and FLAT Steel Strapping?

Buy both from U·S·S Gerrard . . . and save!

● If you use both Round and Flat Steel Strapping in your plant, you will find that *single source* purchasing from U·S·S Gerrard can save you time, work and money.

You can save time and simplify your paper work by ordering both types of steel strapping, in whatever sizes you require, on a single purchase order.

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GERRARD STEEL STRAPPING DIVISION, UNITED STATES STEEL CORPORATION
4717 South Richmond St., Chicago 32, Ill.

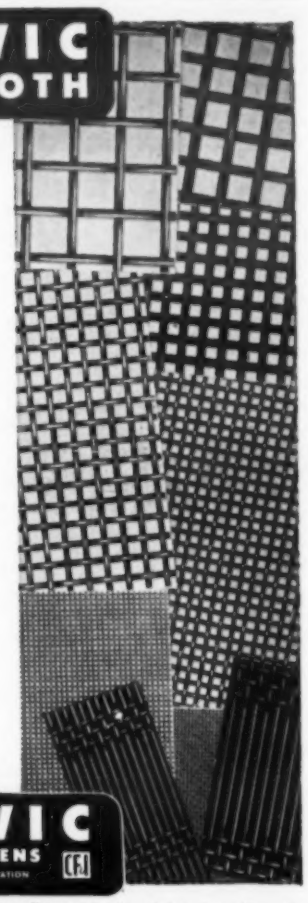
U·S·S GERRARD

Round Steel STRAPPING *Flat Steel*

UNITED STATES STEEL

For more details circle NED-749 L3 on enclosed inquiry slip

CAL-WIC WIRE CLOTH



meets all special job demands

Whatever your special job demands may be—filtering, screening, grading, cleaning, or any other type of processing — Cal-Wic Wire Cloth is available in the right weave, mesh or weight to give long-lasting dependable service.

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CAL-WIC INDUSTRIAL SCREENS
THE COLORADO FUEL AND IRON CORPORATION

1250

For more details circle NED-750 L3 on enclosed inquiry slip

Model-144 THERMOBEADER

for single edge beading of SHEET PLASTIC

This new unit beads faster with improved uniformity to bring greater economy to any straight edge plastic beading operation. Interchangeable dies are available for producing nine different, standard size beads on sheet plastic rolls, blanks or strips and unit accommodates thicknesses from .005" to .020". New Pyrometer temperature control AUTOMATICALLY maintains dies at the most efficient operating temperature at all times. The pre-heating die is now located in the same tilting holder as the beading die for maximum accessibility. New enlarged blower has triple the capacity of the older model to provide faster chilling of freshly formed bead. Length of material guide has been increased 50% for faster feeding and greater accuracy. These features, together with many other improvements, make the new Taber Thermobeader the most modern piece of equipment of its kind on the market. Duplex model, for simultaneously beading two edges, is also available.

The TABER LINE of PLASTIC FORMING EQUIPMENT also includes:

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For more details circle NED-751 L3 on enclosed inquiry slip

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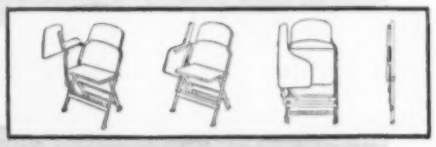
DOUBLE Seating and Table Space at a Moment's Notice

The new Clarin Tablet Arm Chair that Folds combines table and chair in one. You'll be amazed at how many people you can seat comfortably in a small office—and give each of them table space as well. Thus, you can hold those important group meetings in almost any office—and arrange for it in a few moments.

WRITE TODAY!

Our FREE illustrated Folder will give you full details and description of this wonderful, space-saving chair. Quality built—gives years of service—folds to flat 3-inch depth for fast, safe stacking in minimum space. An engineering gem —others are trying vainly to imitate it. Foam rubber cushioning if desired. Write for *free* folder today!

FOLDS FLAT IN 3 EASY STEPS



Clarin Mfg. Co.,
Dept. 15,
4640 Harrison St.,
Chicago 44, Ill.

There is a Clarin Steel Folding Chair for your every need. New FREE Catalog of complete line on request.

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ENGINEERED QUALITY MAKES THE BIG DIFFERENCE IN FOLDING CHAIRS

For more details circle NED-752 L3 on enclosed inquiry slip

Full Protection for Industrial Electric Service

ALLIS-CHALMERS INDOOR OIL CIRCUIT BREAKERS

Type E-47 oil circuit breaker rated 4160 volts, 600 amp, 25,000 kva interrupting capacity.

A COMPLETE LINE of indoor oil circuit breakers for 2300 to 13,800-volt service, up to 500,000 kva interrupting capacity is offered by Allis-Chalmers. These circuit breakers combine simplicity of design with reliability of performance. Each breaker is thoroughly tested before shipment. You can choose from a variety of mountings and accessories for automatic or manual operation.

Get complete information on the breaker for your requirements from your nearest A-C sales office, or write Allis-Chalmers, Milwaukee 1, Wisconsin.

A-3630

ALLIS-CHALMERS

For more details circle NED-753 L3 on enclosed inquiry slip

IF YOU USE AIR IN YOUR PRODUCT OR IN YOUR PLANT

Look to

Kellogg-American

FOR COMPRESSOR PUMPS

Soundly designed, highly efficient. Precision built to deliver more *free air per hp.* Standard units available for pressures up to 200 p.s.i. Single or two stage, one or two cylinders.

FOR COMPLETE AIR COMPRESSORS

Known over 40 years for their efficiency, long life, quiet, economical operation. Available in sizes from ¼ hp through 10 hp. Portable or stationary, skid or tank-mounted, electric motor or gas engine-driven models.

Write for Bulletin K-307-N

AMERICAN Brake Shoe COMPANY

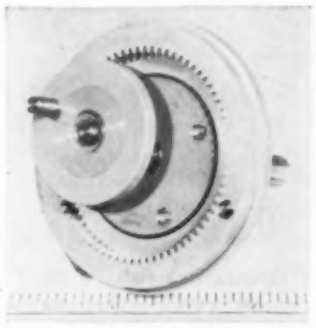
KELLOGG-DIVISION
ROCHESTER 9, N. Y.

Kellogg-American

AIR COMPRESSORS PAINT SPRAY EQUIPMENT

For more details circle NED-754 L3 on enclosed inquiry slip

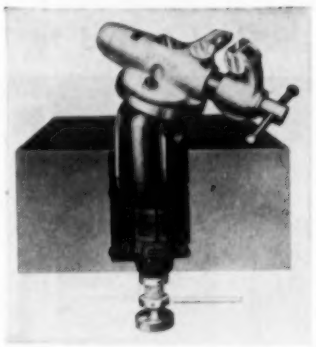
SINE-COSINE MECHANISM
component for analog computers



Accurate conversion of angular rotational movements into linear sine or cosine movements is function of this sine-cosine mechanism. It offers instantaneous solutions to problems of changing variables involving vector components, range and bearing compution, and other trigonometric functions. Mechanism has a conventional three-lug arrangement for mounting, weighs 2 oz and is accurate within 0.2-per cent full scale. Stroke is 0.750-in., plus or minus 0.0015-in. each side of zero. Made by **Librascope, Inc.**, 1608 Flower St., Glendale, Calif.

For more details circle NED-755 L3 on enclosed inquiry slip

HYDRAULIC WORK POSITIONER
carrying capacity is 1000 lb



Designed to position and hold work firmly during machining and other operations, heavy-duty hydraulic Powrarm has a carrying capacity of 1000 lb. It is especially useful for heavy work, as in positioning large foundry castings for filing and chipping. It can be used vertically or horizontally, and a slotted base is available for use with drill presses and other machines with slotted work tables. Action permits work to be repositioned under partial tension. Made by **Wilton Tool Mfg. Co.**, Dept. NED, 925 Wrightwood Ave., Chicago 14, Ill.

For more details circle NED-756 L3 on enclosed inquiry slip

PRESSURE REDUCING VALVE
for heavy or viscous liquid service

Intended for service with heavy oil as well as dirty or high viscosity liquids, Cash-Acme type BBC pressure reducing and regulating valve automatically reduces and maintains flow pressure. In cadmium plated iron model maximum reduction is from 200 to 125 psi, while in bronze unit, initial 250 psi is reduced to 200 psi. Direct acting single seated valve has spring-loaded Monel or Neoprene diaphragm and renewable stainless steel piston and seat. Universal joint type seating arrangement insures free valve operation. Square head adjusting screw is standard, while T handle or handwheel are also available. Valve is offered for pipe sizes from ⅜ to 1½ in. Made by **A. W. Cash Valve Mfg. Corp.**, 6624 E. Wabash Ave., Decatur 60, Ill.

For more details circle NED-757 L3 on enclosed inquiry slip

FACE MILLING CUTTERS
diameters range from 3 to 24 in.

Rigid gripping of blade in the body of Kroslok face milling cutters is assured by cross serrations on one side of body channel which mate with similar serrations on the blade. Wedge is driven between smooth side of the body channel and blade after cross-serrations are mated. General purpose and heavy duty bodies are offered for both ferrous and nonferrous applications. Precision-machined, heat-treated alloy steel bodies, as well as interchangeable high speed steel or cemented carbide-tipped blades are offered in right and left hand styles. Cutter diameters range from 3 to 24 in. Made by **Motch & Merryweather Machinery Co.**, Cutting Tool Mfg. Div., 717 Penton Bldg., Cleveland 13, O.

For more details circle NED-758 L3 on enclosed inquiry slip

Flowed-in GASKETS

can cut costs and improve results!

Now! *Flow* gaskets into place at speeds up to 300 per minute. Gaskets become integral with the part — meet a wide range of problem conditions.

SIMPLE APPLICATION. Instead of installing pre-cut gaskets by hand, you merely *flow* a synthetic resin or rubber compound into position (horizontal or vertical surface). After baking, compound becomes solid, rubbery.

BUILT-IN RESISTANCE PROPERTIES. You create effective seals against weather, gases, solvents, moisture, oils, hydraulic fluids, pressure. Form shock-resistant cushions.

IMPORTANT ECONOMIES. You eliminate stamping, gluing, crimping, welding, and other time-consuming operations. Save on materials, too.

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For more details circle NED-759 L3 on enclosed inquiry slip

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Wire Cloth in All Malleable Metals

Newark Wire Cloth is made of *all* malleable metals such as aluminum, brass, bronze, phosphor bronze, copper, monel, Nichrome, nickel and stainless steel; as well as the noble metals such as gold, silver, platinum, etc.

This wide range of metals enables you to select the one wire cloth to meet your conditions of corrosion and/or contamination.

In all metals, Newark Wire Cloth is accurately woven in a wide range of meshes, ranging from very coarse (4 inch space cloth), to extremely fine (up to 400 mesh). Our reputation for 'Accuracy' through more than 75 years is your guarantee of wire cloth quality.

We maintain a large stock of popular sizes in the more commonly used metals and can make prompt shipment. Let us quote on your requirements.

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Newark Wire Cloth COMPANY

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For more details circle NED-760 L3 on enclosed inquiry slip

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High tensile wrought aluminum alloy parts make it 21 lb. lighter than 1-ton all-steel Packet

Though much lighter in weight, the aluminum Packet retains the drop-forged, heat treated steel hooks; the electrically welded, oval link, heat treated, steel load chain; and the mounting of rotating parts on prelubricated, shielded ball bearings of the all-steel hoist.

To obtain more information on these lightweight, spur-geared hoists that are easily carried from place to place, look in your local classified telephone directory under "Hoists" for your nearest Harrington distributor. Or write us for Bulletin P-5.

HARRINGTON PEERLESS HOISTS

THE HARRINGTON CO., 1650 W. Callowhill St., Phila. 30, Pa.

Makers of Hoists Since 1876

For more details circle **NED-761 L3** on enclosed inquiry slip

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For more details circle **NED-762 L3** on enclosed inquiry slip

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A compact package for automatic control

The Askania Unit Regulator is a hydraulic controller for pressure, flow, ratio, and other variables. For precise control of low-level signals, for the economy and simplicity of hydraulic operation, for fast control action, check the Askania Unit Regulator.

It is self-contained—oil pump and reservoir are housed in the regulator body. Ideal for isolated jobs, or for installation at point of measurement or control. Remote panel-mounted control point setting available.

Ask for Bulletin 155.

ASKANIA REGULATOR COMPANY

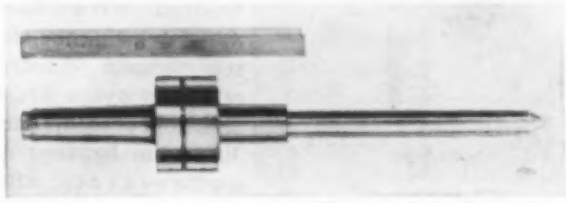
258 E. Ontario Street Chicago 10, Illinois

Subsidiary of General Precision Equipment Corp.

For more details circle **NED-763 L3** on enclosed inquiry slip

EXTRA LONG CENTERS made in any length, size or taper

Micro finish can be obtained on external honing operations through use of the extra long point antifriction



centers which hold work securely as the head comes up close to the work. Centers are designed to give perfect balance and accurate support under extreme loads and speeds. Illustrated center is over 2 ft long, but they can be made in any length, size, taper or straight shank. Point and head sizes are determined by the application. Self-lubricated bearings are of the locked-in duplex angular contact antifriction type. Made by **Ready Tool Co.**, 554-D Iranistan Ave., Bridgeport 5, Conn.

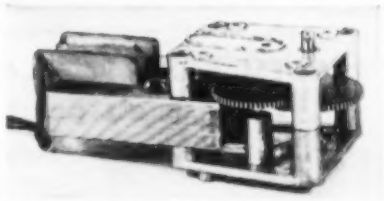
For more details circle **NED-764 L3** on enclosed inquiry slip

STEEL TAPE RULE inside measurements directly read

Direct reading of inside measurements is possible with Push-Pull steel tape rule. Red indicator on window of case points to exact inside measurement on white blade when case butts against work and blade is extended. Flexible-rigid ½-in. blade is graduated in 16ths on both edges for entire 6-ft length and in 32nds on upper edge for 6 in. Nickel plated 2-in. case has brushed satin finish. Rule retails for $1.50. Made by **Stanley Tools**, 104 Elm St., New Britain, Conn.

For more details circle **NED-765 L3** on enclosed inquiry slip

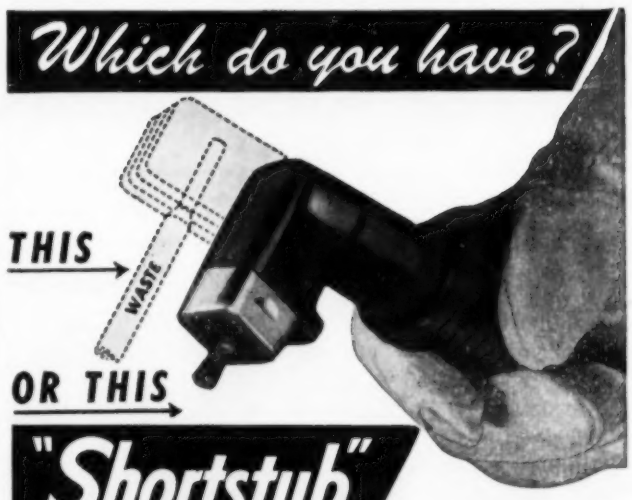
MOTOR & GEAR TRAIN output is 6 rpm with 20-lb-in. torque



Measuring 4¾ x 2½ x 2 in., model SP-6 shaded-pole induction motor is geared to 6 rpm with a torque of 20 lb-in. It operates on 110-v 50-60-cycle ac. Other models are available with speeds from 1 to 1155 rpm. Applications include powering actuators, dispensers, vending machines and mechanical games. Company can also furnish stators and rotors separately for inclusion in special castings or complete motors without gear trains. Made by **General Die & Stamping Co.**, 263 Mott St., New York 12, N. Y.

For more details circle **NED-766 L3** on enclosed inquiry slip

Which do you have?



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Length Inches	Wt. Ozs.	Cap. Amps.	Electrode Size	List Price
8⅞"	17	400	1/16 to ¼"	$6.90
10⅞"	24	600	3/32 to ⅜"	7.90

Quantity Prices Save You 10 to 20%

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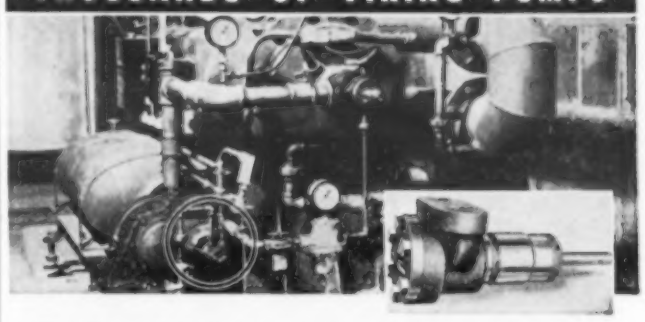
For more details circle **NED-767 L3** on enclosed inquiry slip

HOW ROOTS CONNERSVILLE USES THOUSANDS OF VIKING PUMPS



The Roots Connersville Blower Division, Connersville, Indiana, builds inert gas generators for many industries. Viking Pumps are standard equipment for pumping fuel oil, which is burned to produce cheap inert gas for preventing fires in explosive atmospheres. Uses range from gas and coke oven installations, steel works, oil refineries, chemical and rubber plants to fruit packing plants. In these applications thousands of Viking Pumps are being used with highly successful results.

Whether you produce original equipment, or have pumping problems in your own business, call on Viking to solve them. To start, write for bulletin 1803G.

VIKING AN HONORED NAME IN PUMPING

VIKING PUMP COMPANY CEDAR FALLS, IOWA

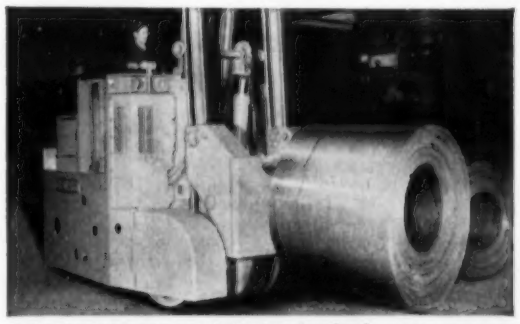
See Our Color of the Cover

For more details circle **NED-768 L3** on enclosed inquiry slip

B.F.Goodrich

FREE TIRE AND WHEEL ANALYSIS can save you as much as 50% on industrial tires

ROUGH HAULING SURFACES? They can slash tire life, increase maintenance costs. The BFG man can show you how to get maximum tire life.



HEAVY LOADS AND EQUIPMENT? Overloads can cause premature tire failures. Your BFG man knows how to match the tire and the load.

Here's how to start cost cutting

Mail the coupon below for free information on the B. F. Goodrich Tire and Wheel Analysis Plan. Without obligation a trained BFG man will study your materials handling operations. He will tell you what type and size tires, what tread design and compound will serve you best.

Because BFG makes a *complete* line of industrial tires, you get impartial recommendations, plus maintenance suggestions that alone can cut costs 20%. Mail the coupon today! A special TW Analysis Plan is available for manufacturers of materials handling equipment.

WRITE FOR THIS BOOK

Specify B. F. Goodrich tires when ordering new equipment

The B. F. Goodrich Co.
Tire & Equipment Division
Department TW-317, Akron 18, Ohio.

Please send me:

☐ *Additional information* on your new Tire and Wheel Analysis Plan

☐ A free copy of your "Industrial Tire Guidebook"

Name _____

Company _____

City _____ Zone ____ State ____

RESEARCH KEEPS B.F.Goodrich FIRST IN RUBBER

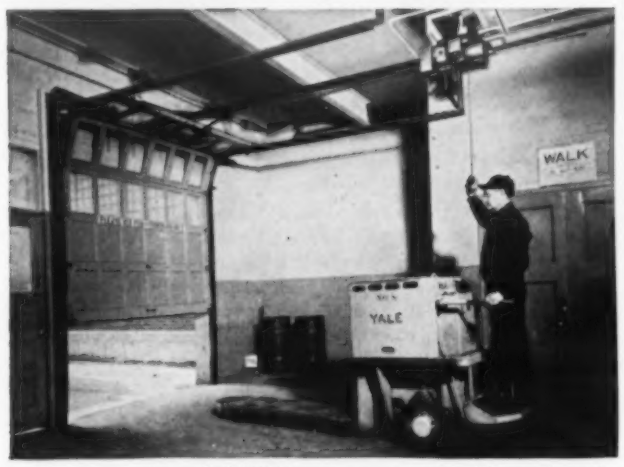
For more details circle **NED-769 L3** on enclosed inquiry slip

BARBER COLMAN

Barcol®

Electric Operators

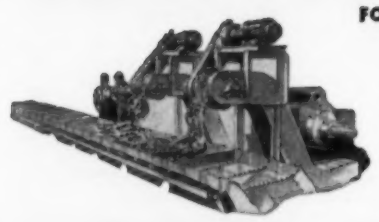
for rugged industrial use



Barcol OVERdoors operate smoothly and easily because twin torsion coil springs are engineered to balance the exact weight of the door, glass, paint, and every ounce of plated hardware. Add the patented Barber-Colman cam closing action, and your door is sure to be weathertight yet easy working. Equip with Barcol electric operators to speed plant traffic and save heat. Your Barcol distributor sells, installs, guarantees, and services. Look under "Doors" in phone book.

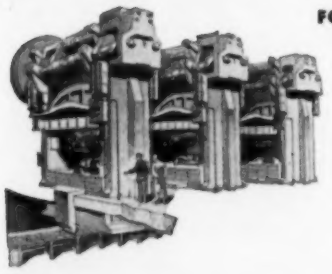
BARBER-COLMAN COMPANY, DEPT. S311, ROCKFORD, ILLINOIS

▲ For more details circle **NED-770 L3** on enclosed inquiry slip ▲



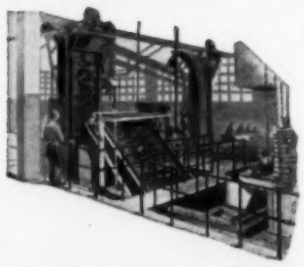
FOR CHIPS, TURNINGS, AND BORINGS

Hot or wet scrap material is continuously removed from operating machine tools . . . downtime for scrap removal is eliminated.



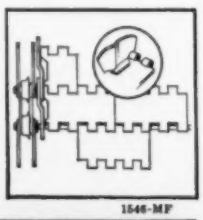
FOR PRESS SCRAP

MAY-FRAN engineered systems eliminate manual lifting and hauling of razor-sharp press scrap. Hinged belting, sturdily constructed of wear resistant, heavy gauge steel links assure longer, trouble-free operation.



FOR MASS-PRODUCED PARTS MAY-FRAN systems are completely automatic and convey high production parts through heat treating, machining, inspection, and other operations with maximum speed and efficiency.

MAY-FRAN precision-formed hinged steel links can be assembled from stocked component parts to meet individual requirements of length and width. Outside links incorporating interlocking wings remain positively engaged at all times. New interlocking flanges allow staggering of links . . . eliminate lateral movement.



1546-MF

MAY-FRAN

ENGINEERING INCORPORATED

DESIGNERS AND BUILDERS OF COMPLETE HANDLING SYSTEMS

1711 CLARKSTONE ROAD • CLEVELAND 12, OHIO

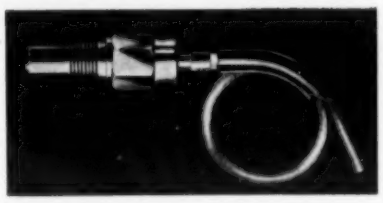
▲ For more details circle **NED-771 L3** on enclosed inquiry slip ▲

TUBE CLEANING ENSEMBLE
combines scouring, flushing action

Condenser or heat exchanger tubes are scoured and flushed clean by this tube cleaning "team," consisting of three nylon brushes and improved aluminum Jiffy gun. Brushes with under-size rubber bumpers or plugs at each end are inserted into tube, then gun nozzle is pressed into tube end. Released water pressure passes over bumper to propel close-fitting brush through tube with spinning action. Shield behind gun nozzle diverts water backflow. Air can also be used as operating medium, although water is recommended for its flushing action. Brushes will not stick in or injure tubes in any way. Made by **Elliott Co.,** Lagonda Div., Martin St., Jeannette, Pa.

▲ For more details circle **NED-772 L3** on enclosed inquiry slip ▲

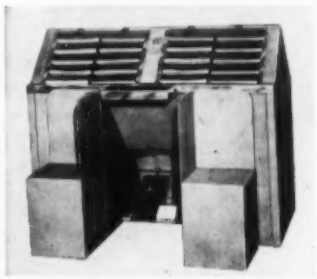
THERMAL SENSING UNIT
for temperature limit indication



This thermal sensing unit, called Plugstat, provides precise thermal warning without calibration drift. It can be used wherever temperature limit indication is required, as in aircraft generators, air and water cooled engines, bearings, etc. Alloy contacts give clean make-and-break. Unit is capable of a 200° F overshoot from a high or low normal setting. It is rated at ½-amp, 28 v, ac or dc resistive loads. Contacts can be arranged normally-open or normally-closed. Instrument is factory set and sealed and weighs approximately 1½ oz. Made by **Control Products, Inc.,** 300 Sussex St., Harrison 12, N. J.

▲ For more details circle **NED-773 L3** on enclosed inquiry slip ▲

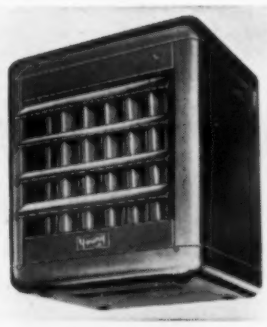
TANDEM PAPER COLLATOR
12,000 sheets per hour possible



Divided into two sections of 10 bins each, this paper collator operates on tandem principle which allows collating of 20 pages in groups of 10. Speeds range up to 12,000 sheets per hour. Adjustable trays accommodate page sizes from 3 x 8½ in. to 14 x 17 in. Depression of foot pedal actuates rubber-tipped fingers in right-hand bins which push out top sheet of each stack into operator's hand. She grasps sheets, jogs and places set on storage bin, at same time depressing other foot pedal to initiate an identical action in left-hand bins. All pages are under constant inspection. Made by **Thomas Collators, Inc.,** Dept. M, 30 Church St., New York 7, N. Y.

▲ For more details circle **NED-774 L3** on enclosed inquiry slip ▲

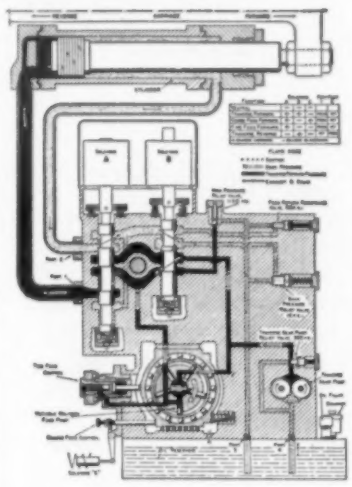
GAS-FIRED UNIT HEATER
delivers 50,000 Btu per hour



Designed for low ceiling and small space applications, model G-50 gas-fired unit heater has input of 50,000 Btu per hour. The 23-in. high unit is direct fired into tubes of welded, aluminized steel heat exchanger. Other features include draft diverter with built-in side relief openings; totally-enclosed, shaded-pole, resiliently mounted motor; heavy cast iron burners for use with manufactured, mixed, natural, L.P. or L. P. air gases; solenoid gas valve; high temperature limit control; pressure regulator; four-blade aluminum fan with control; and two-point suspension hangers. Die-formed casing is finished in neutral gray baked enamel. Made by **Young Radiator Co.,** 729 Marquette St., Racine, Wis.

▲ For more details circle **NED-775 L3** on enclosed inquiry slip ▲

ANY-FEED Oilgear Power Unit



For machine tool and other straight-line feeds

An amazing little fluid power feed pump for practically any machine tool or straight-line feed installation you can think of. It embodies the *Any-Feed* Oilgear Fluid Power unit with a 20:1 range and rapid traverse as high as 265:1 over feed rate. It provides undeviating precision day in and day out once the feed rate is set.

It installs *into* your assembly easily, or mounts nearby or remotely. Yet control of the many possible functions is found in the electric pushbutton station; or partial or completely automatic operation is available. It affords complete operating safety for all action is instantly neutralized in case of accident. All parts are completely and easily accessible. The design is simple; you mount, connect two pipes and control wires. Write for descriptive Bulletin 44200 now while you think of it. THE OILGEAR COMPANY, 1582 West Pierce Street, Milwaukee 4, Wisconsin. *Advt.*

▲ For more details circle **NED-776 L3** on enclosed inquiry slip ▲

FREE *Send for your copy today*

Helps you choose the RIGHT Hood Glove—
Neoprene, Rubber or Plastic
for ANY Industrial job

Check this Reliable, Handy Hood Performance Chart!

. . . this information-packed booklet shows comparative wear and chemical resistance of Hood Neoprene, Rubber and Plastic Coated Gloves, and contains illustrations and full descriptions of the complete line of Hood Industrial Gloves—top choice for *every* job in *any* industry.

HOOD RUBBER CO.
Watertown, Mass.

▲ For more details circle **NED-777 L3** on enclosed inquiry slip ▲

VERSATILE 12" SWING LOGAN LATHE

FOR PRODUCTION, TOOL ROOM, MAINTENANCE, SCHOOL SHOP

Variable Speed Drive
Optional at no extra cost

With its massively proportioned ball bearing spindle, this 12" Logan combines wide speed range, sustained accuracy, and extreme rigidity on heavy cuts. Rugged accurate overall construction means lasting accuracy in production. The completely machined saddle and large, accurate dials are typical features adapting it to tool room work. With 1" collet capacity, 1⅜" spindle hole, and either 23" or 35" center distances, the 12" Logan can put new efficiency and more profit in most lathe turning operations.

Write for new catalog

SMOOTH
On Heavy Cuts

With smooth power this 12" Logan hogs out a .375" cut from bar stock. Massive headstock and ball bearing spindle make heavy cuts easy.

ECONOMY
In Production

Typical parts made on Logan Lathes and held to closest tolerances at minimum cost per finished part.

LOGAN ENGINEERING CO.

LAWRENCE AND LAMON AVENUES • CHICAGO 30, ILLINOIS

▲ For more details circle **NED-778 L3** on enclosed inquiry slip ▲

HANDLING BULK MATERIALS?

"TAKE IT UP A FLO→TUBE"®

CANTON STOKERS

The spiral conveyor of steady, dependable service. Sturdy cast iron trough bolts together in 3 ft. sections, capped with steel plates for easy removal if ever necessary. Built to take the abuse of coal, yet with tolerances just right to handle materials from grain size to lump.

To fill 3 or more hoppers use gate-valves in Flo-Tube horizontally. Below, filling 2 hoppers with "Y" chute.

Hopper level maintained by 'off-on' automatic switches.

Exposed end for pick-up

CANTON STOKER CORP.

SPECIALISTS IN AUTOMATIC COAL FIRING, HANDLING AND CONTROL EQUIPMENT
100 ANDREW PLACE S. W. • CANTON, OHIO

For more details circle NED-779 L3 on enclosed inquiry slip

BATTERY ASSEMBLIES
cells are sliced off as required

Equipment designers investigating transistor applications can make practical use of these RCA alkaline battery assemblies which can be sliced like package of candy mints into the necessary combination of cells. Both assemblies VSO87 and VSO88 for current drains up to 2 ma and 10 ma, respectively, are 21-v special-purpose types containing 15 individual 1.4-v crown-type dry cells encased in plastic sleeve. Each cell is indicated by pair of ridges formed in sleeves by scalloped edges of the cell caps. Power requirements from 1.4 to 21 v can be obtained by slicing a section of the battery having the necessary number of cells, as shown. Made by **Radio Corp. of America,** RCA Victor Div., Tube Dept., Harrison, N. J.

For more details circle NED-782 L3 on enclosed inquiry slip

DUMP ATTACHMENT
for Yale truck installation

Yale fork trucks can be equipped with a hydraulic dumping attachment which permits controlled dumping at any height up to the maximum lift range of truck without loss of lift. It is designed for use with drop bottom boxes, raising the rear end of the box through a hook engagement independent of fork action. Device is quickly attached to the front face of the carriage of all Yale trucks. Lifting hook is adjustable and can be used with both 11 and 15 cu ft boxes. Hooks for other boxes can be furnished and are interchangeable. Made by **Yale & Towne Mfg. Co.,** Yale Materials Handling Div., Dept. M-1, Roosevelt Blvd. & Haldeman Ave., Philadelphia 15, Pa.

For more details circle NED-783 L3 on enclosed inquiry slip

DO YOU KNOW? Mechanical seals for centrifugal pumps are subject of 20-minute sound-color motion picture which is available for showing to technical and maintenance groups without cost. Various seal types and their applications are described, and animated drawings help to depict operation of seals. Arrangements for film showings can be made through Byron Jackson Co., Pump Div., Dept. 11, P.O. Box 2017, Terminal Annex, Los Angeles 54, Calif.

For more details circle NED-784 L3 on enclosed inquiry slip

No flush-pin depth gage can match the Accuracy of this INDICATING DEPTH GAGE!

FEDERAL INDICATING DEPTH GAGES provide the positive, accurate, and convenient means of inspecting depths of holes, slots, and other recesses. Available for general or production inspection, with various contact points and special bases to suit the particular needs of the user. Send for our catalog showing the most complete line of Dial Indicators and Indicating Gages. FEDERAL PRODUCTS CORP., 1711 Eddy St., Providence 1, Rhode Island.

FEDERAL
Largest manufacturer of indicating type gages . . . exclusively

For more details circle NED-786 L3 on enclosed inquiry slip

Tool Grinders by Ex-Cell-O

XLO

STYLE 44-A, Ex-Cell-O Precision Carbide Tool Grinder. A new model for sharpening single point tools. Inbuilt motor precision grinding spindle. Ample pressure coolant flow.

For Carbides, Cast Alloys, Hi-Speed Steels . . .

A complete line of grinders, for efficient and economical sharpening of single point tools. All are double-end models using cup type wheels; with large tool rest tables, easily adjusted.

EX-CELL-O CORPORATION
DETROIT 32, MICHIGAN

53-30

WRITE FOR THIS BULLETIN →

It shows and describes five models; also gives important data on tool grinding. Address Ex-Cell-O in Detroit today; ask for BULLETIN 46262.

For more details circle NED-780 L3 on enclosed inquiry slip

Sturtevant MICRONIZER* GRINDING MACHINE

Reduces Solids to Micron Sizes

The new Sturtevant *Micronizer* grinding machine is a fluid jet grinder especially designed to reduce solid materials to particle sizes in the micron ranges.

Sturtevant *Micronizers* are used for simultaneous dry grinding and classification of solids. The variety of materials that can be processed is large and includes both metallic and non-metallic minerals and ores, metals, pigments, insecticides, fungicides, pharmaceuticals, plastics, dyes and numerous other organic and inorganic products. Available in capacities from ½ to 3000 pounds per hour.

*Micronizer is the Registered Trademark of the Sturtevant Mill Co.

STURTEVANT MILL COMPANY
114 CLAYTON STREET, BOSTON 22, MASSACHUSETTS
Designers & Manufacturers of:
DENS AND EXCAVATORS • MIXERS • SCREENS • PULVERIZERS
ELEVATORS • AND COMPLETE FERTILIZER UNITS

For more details circle NED-781 L3 on enclosed inquiry slip

Where to use INSUL-MASTIC Coatings

These *Superior* coatings can end many problems in your plant for many years to come.

- They prevent corrosion from moisture, acids and other chemicals!
- They control condensation or sweating!
- They insulate!
- They stop walls and roofs from leaking!
- They keep insulation dry and protected!
- They deaden sound!
- They attractively resurface old buildings!

A 44-page catalog will give you more ideas for employing INSUL-MASTIC *Superior* coatings. Write for it today.

Insul-Mastic
CORPORATION OF AMERICA
Oliver Building • Pittsburgh 22, Pa.
Representatives in Principal Cities

For more details circle NED-785 L3 on enclosed inquiry slip

EASIER LIQUID LEVEL READINGS WITH IMPROVED WIDE VISION REMOTE INDICATOR

A new-type face on the Yarway Remote Liquid Level Indicator now permits side as well as head-on dial readings.

This improved visibility makes it possible to check boiler water levels from most any position in the control room, or wherever the Yarway Remote Indicator may be installed.

The Yarway Indicator is a manometric type with automatic temperature compensation. Level readings are instant and accurate because the indicator is operated by the boiler water itself. Indicating mechanism is never under pressure. There are no stuffing boxes.

Over 8,000 Yarway Remote Liquid Level Indicators are successfully operating throughout industry—primarily for indicating boiler water levels, but also for many other liquid level applications, and for superheater pressure differential indicators aboard ship.

Write for free Yarway Indicator Bulletin WG-1823.

YARNALL-WARING COMPANY
131 Mermaid Ave., Philadelphia 18, Pa.

YARWAY | remote liquid level indicators

For more details circle NED-787 L3 on enclosed inquiry slip

KEEP WORK RECORDS CLEAN AND NEAT

Ideal for
SHOP ORDERS
JOB TICKETS
COST DATA
WORK CHARTS
BLUE PRINTS
CARDS & PASSES
INSPECTION CHARTS
MACHINE RECORDS
INSTRUCTION DATA, etc.

Crystal clear Ful-Vu plastic holders give positive protection against dirt, smudges, grime and damage. New "easy slide" design makes it easy to insert or remove forms from holders. Dozens of standard types. Specials to any shape or size. Write for catalog and sample of E-Z Slide holder.

PROTECTS Ful-Vu SYSTEMS OF DISPLAY GLORIFIES

COOKS' Inc., Dept. NED 113, Camden, N.J.
IN CANADA: Preston-Noelting, Ltd., Stratford.

For more details circle NED-788 L3 on enclosed inquiry slip

Industrial CRANES Improve Your Profit

Pillar Cranes
Up to 6 Tons
Boom Swings
360 Degrees

Handle Material to and from Open Cars, Trucks and Machines at Lower Cost

WRITE FOR LITERATURE

INDUSTRIAL CRANE & HOIST CORPORATION
(Formerly Industrial Equipment Co.)
327 NORTH ADA STREET CHICAGO 7, ILLINOIS
Overhead Cranes • Jib Cranes • Monorail Systems
Crane Runways
Representatives in Principal Cities

For more details circle NED-789 L3 on enclosed inquiry slip

POSITIVE TOOL STEEL IDENTIFICATION

WITH THIS NEW

12-Color Chart!

Now . . . to help you eliminate costly tool steel mix-ups, Carpenter Matched Tool & Die Steel bars are painted FULL LENGTH with distinctive colors! This *practical* marking system, along with this new Wall Chart printed in colors that match the completely-painted bars, enables you to . . .

QUICKLY IDENTIFY TOOL STEELS!
REDUCE YOUR OWN MARKING COSTS!
AVOID COSTLY STOCK MIX-UPS!
SIMPLIFY INVENTORY-TAKING!

Tool Steel Selector and Identification Wall Chart — 21" x 30"—printed in *12 colors!* To cash-in on this new color-marking system, send for your Wall Chart, *now*. Just mail the coupon.

THE CARPENTER STEEL COMPANY
118 WEST BERN STREET • READING, PA.
Please send me the free Tool Steel Selector and Identification Wall Chart.

NAME ..... TITLE .....
COMPANY .....
ADDRESS .....
CITY ..... ZONE ..... STATE .....
(PLEASE PRINT)

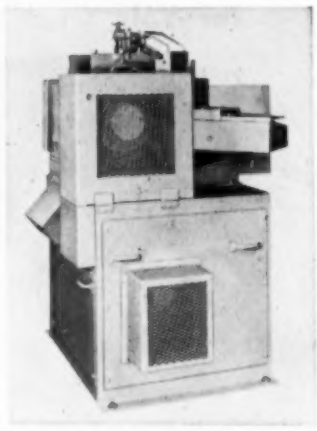
For more details circle NED-790 L3 on enclosed inquiry slip

LIFT TRUCKS with capacities up to 2000 lb

With a lifting height of 60 in. and 1000-lb capacity, TE-1-F Tubarlift truck illustrated is typical of a line of electrically operated straddle type hydraulic lift trucks. It operates from a standard 6-v automobile battery and has a built-in battery charger. Various combinations are available, including platform, combination fork and platform and standard or straddle type legs. Various lift heights between 48 and 84 in., as well as 2000-lb capacities are also to be had. Made by **Uhrden, Inc.,** 508 Grant St., Dennison, O.

For more details circle NED-791 L3 on enclosed inquiry slip

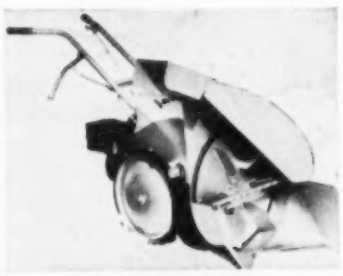
DICING MACHINE for all plastic materials



All kinds of plastic sheet stock can be diced into cube sizes by the Stair-Step dicing machine which has input speeds from 10 to 125 fpm, depending upon material and size of cube desired. Polyethylene, soft vinyls, nylon, acetate and styrene can be processed in the same machine. Cube size can be from 1/8 to 3/8-in. Two machine sizes handle sheets up to 7 or 14 in. wide. Special models can be built for greater widths. Made by **Cumberland Engineering Co.,** Dept. N14, P. O. Box 216, Providence, R. I.

For more details circle NED-792 L3 on enclosed inquiry slip

ROTARY SNOW PLOW clears 20-in. path



Operating on the snow throwing principle, the Jari Champion rotary snow plow clears a 20-in. path in one pass and operates in drifts 36 in. high. It is self-propelled through a two-wheel drive and has a 2½-hp four-cycle engine. Machine has a rotary rake for breaking up hard, packed snow, and its open-end construction permits efficient handling of wet, slushy snow. Also incorporated are an independent clutch for starting the engine without load and an automatic belt tightener. Available attachments include 36 and 44-in. wide sickle bar cutters and 24-in. reel type lawn mower. Made by **Jari Products, Inc.,** 2936 W. Pillsbury Ave., Minneapolis 8, Minn.

For more details circle NED-793 L3 on enclosed inquiry slip

HIGH-FREQUENCY PRESSURE CELLS in 1000 to 20,000 psi capacities

Consisting of pressure-sensitive tube on the outside of which are bonded special strain gages, SR-4 high frequency pressure cells are available in standard capacities of 1000, 2000, 5000, 10,000 and 20,000 psi. Cells are usually connected to operate an oscilloscope for high frequency response, although pressure changes can be measured by means of electrical indicator or recorder of the potentiometer type. Upper frequency response is limited by cavity resonance of tank or piping connected to it. High accuracy can also be obtained in static pressure measurements in −60 to 150° F range. Cells measure 5½ x 2 in. and weigh 1 lb. Made by **Baldwin-Lima-Hamilton Corp.,** Dept. T.E., Philadelphia 42, Pa.

For more details circle NED-794 L3 on enclosed inquiry slip

THIS DOCKBOARD IS 5 YEARS OLD — *and still going strong!*

When this company bought this Magcoa Magnesium Dockboard back in 1948, it made an investment in safe, light-weight, heavy-duty, *permanent* equipment. The first cost was the only cost.

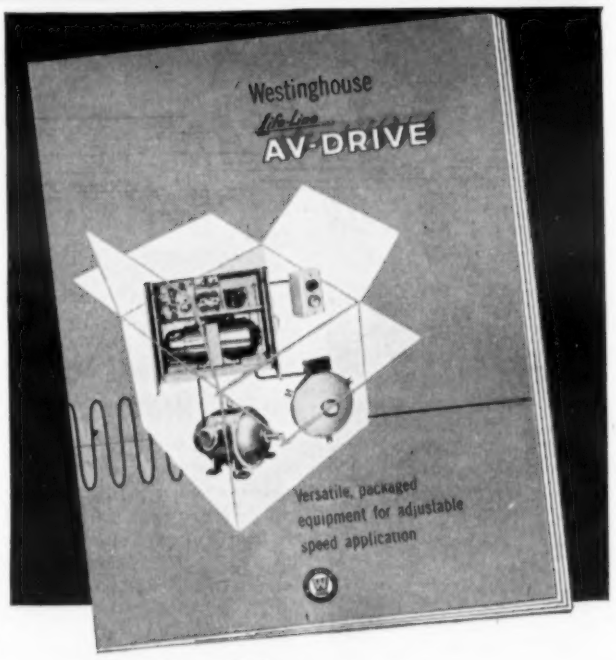
How about you? Are you still risking workers, lift trucks and loads on a dangerous, makeshift bridgeplate? Replacing one beat-up, worn-out piece of plate with another one that really isn't any better? Why keep on paying and paying for heavy-metal plate never intended for that use, even by the companies that sell it? As a matter of fact, many of them were among the first to switch to safe, long-lasting Magcoa Dockboards—the line with more in-use service than all competitive equipment combined.

But why wait? Get the facts . . . contained in the free new Magcoa *Dockboard Facts File.* And be sure to look into the new Magcoa Portable Yard Ramp: a rugged, high-speed loading dock . . . where and when you want it. Write today.

FACTS FILE

MAGNESIUM COMPANY OF AMERICA
MATERIALS HANDLING DIV. • EAST CHICAGO 6, IND.

For more details circle NED-795 L3 on enclosed inquiry slip



Free booklet tells how to save with adjustable voltage drives

With this practical booklet in hand, you have full information on the economy, convenience and versatility of Life-Line* AV Packaged Drives. You'll learn how these compact units provide on-the-spot power conversion thereby eliminating long runs and intricate networks of d-c feeders. The many other advantages gained from precise regulation of d-c motors from an a-c source are clearly presented.

One section describes how the AV Packaged Drive operates. It shows front, rear and side views and labels all standard components for easy identification. Also covered are construction features that assure long, dependable operation from your packaged drive.

Included are typical applications showing how AV Packaged Drives bring precise, versatile control to over-all industry.

For your free copy of AV-Drive booklet, B-5808, write to Westinghouse Electric Corporation, P.O. Box 868, Pittsburgh 30, Pennsylvania. J-21782

*Trade Mark

YOU CAN BE SURE... IF IT'S Westinghouse

For more details circle NED-796 L3 on enclosed inquiry slip

Engineered for use on transformer vaults, weatherproof rooms, marine bulkheads, test rooms and similar applications, this new insulated door-and-frame unit is available in a range of sizes to meet every individual requirement. It can be furnished with round or square corners on door or frame.

Positive seal is assured by special neoprene rubber gasketing which is readily adjusted or replaced. Standard Overbeke-Kain closures are all-welded steel construction. Stainless steel, aluminum or other non-corrosive materials are also available. Hardware is supplied to user's specifications.

Write for Bulletin No. 784 for complete information.

the Overbeke-Kain company 986-OK

20979 AURORA RD....BEDFORD, OHIO

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What FEATURES do YOU WANT in a UNIVERSAL JOINT?

- Maximum strength and bearing surface
- Quick-acting, dependable response
- Long service-life
- Optimum operating angle
- Close quarter operation
- Accurate surface grinding
- High concentricity
- Minimum weight

LOVEJOY HAS THEM ALL!

Available in 13 standard sizes—diameters ½" to 4"—bores ¼" to 2"—lengths 2" to 10⅝"

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LOVEJOY FLEXIBLE COUPLING COMPANY
5003 W. LAKE STREET CHICAGO 44, ILLINOIS
Manufacturers of flexible couplings, universal joints, variable speed pulleys and variable speed transmissions.

For more details circle **NED-798 L3** on enclosed inquiry slip

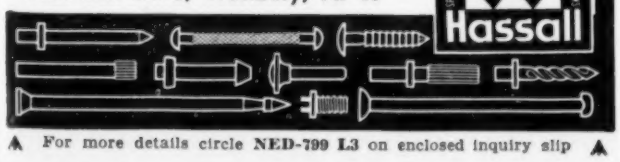
WRITE FOR FREE Hassall decimal-equivalent wall chart

In such popular demand (we've given away 50,000)—we've made it better. The new chart is far easier to read! In three colors to automatically signal decimal-equivalents of fractions. The special products which frame the chart are a constant reminder of a good source for cold-headed parts.

ESTABLISHED 1850

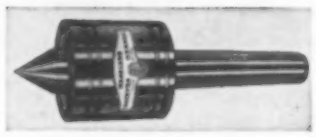
JOHN HASSALL, INC.
P.O. Box 2178, Westbury, N. Y.

Hassall



For more details circle **NED-799 L3** on enclosed inquiry slip

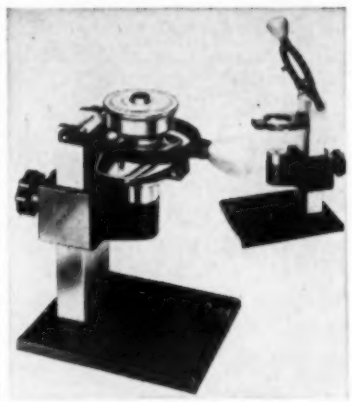
LIVE CENTERS feature interchangeable points



Precision matched No. 3 Timken bearings are incorporated in line of Monarch live centers which are accurate within 0.0001-in. Interchangeable points are available in wide variety of sizes for standard male, long male, standard female and standard pipe points. Parts and bearings are replaceable. Alemite or other grease fittings can be applied. Straight shank, Jarno, Brown & Sharpe and Morse-Hendy tapers are available, and specials can be made to order. Standard and heavy duty models are made with overall lengths from 5⅜ to 13 5/32 in. Made by **Royal Products**, 82 Union St., Mineola, L. I., N. Y.

For more details circle **NED-800 L3** on enclosed inquiry slip

HARDNESS TESTER ADAPTER speeds mass production testing



Demands of mass production testing using the Newage portable metal hardness tester can be met by use of this bench adapter. Part to be tested is placed on the adapter's anvil, after which the operator lowers the operating lever to obtain a direct reading of hardness from the tester dial. Tester can be quickly removed from the adapter. Custom anvils can be designed. Testers are calibrated to various hardness scales. Available from **Newage International, Inc.**, 235 E. 42nd St., New York 17, N. Y.

For more details circle **NED-801 L3** on enclosed inquiry slip

LP-GAS TORCH lights instantly without priming

Burner of Lenk liquefied petroleum torch has a snap-on adapter which makes possible use of either a needle-point or blast flame for all kinds of soldering, sweat fitting and light brazing. Sootless and odorless flame burns at over 2200° F, using fuel from a throw-away container. A self-sealing valve permits safe removal of instant-lighting torch head. List price including two burners and replaceable fuel tank is $4.95. Made by **Lenk Mfg. Co.**, 31 Cummington St., Boston 15, Mass.

For more details circle **NED-802 L3** on enclosed inquiry slip

Futuramic Model 1173, broad band Yagi antenna covering channels 7-13. Channel Master Corp., Ellenville, New York

economical Phenolite low-loss block insulators ...on famous Channel Master TV antennas

Channel Master's sensational Futuramic antenna combines Broad Band coverage with the high gain and directivity of the Yagi. Utilizing a two dipole system connected by a Phenolite low-loss block insulated harness, the Futuramic is the one antenna that solves today's reception problems, yet will also receive tomorrow's VHF channels.

National Laminated Plastics nationally known—nationally accepted

NATIONAL VULCANIZED FIBRE — A tough, horn-like material with high dielectric strength. Excellent machinability. Sheets, Rods, Tubes, Special Shapes.

PHENOLITE Laminated PLASTIC — Good electrical insulating material with great mechanical strength; moisture resistant. Sheets, Rods, Tubes, Special Shapes.

NATIONAL VULCANIZED FIBRE CO.
Wilmington, Delaware Since 1873 Offices in Principal Cities

For more details circle **NED-803 L3** on enclosed inquiry slip

NEW DISC CLUTCH

for gasoline engines, electric motors, speed reducers, etc.

operates with light pressure
picks up load without grab

integral V-belt pulley
integral sprocket
cut-off coupling or sleeve
easy manual operation
adjustable
powerful

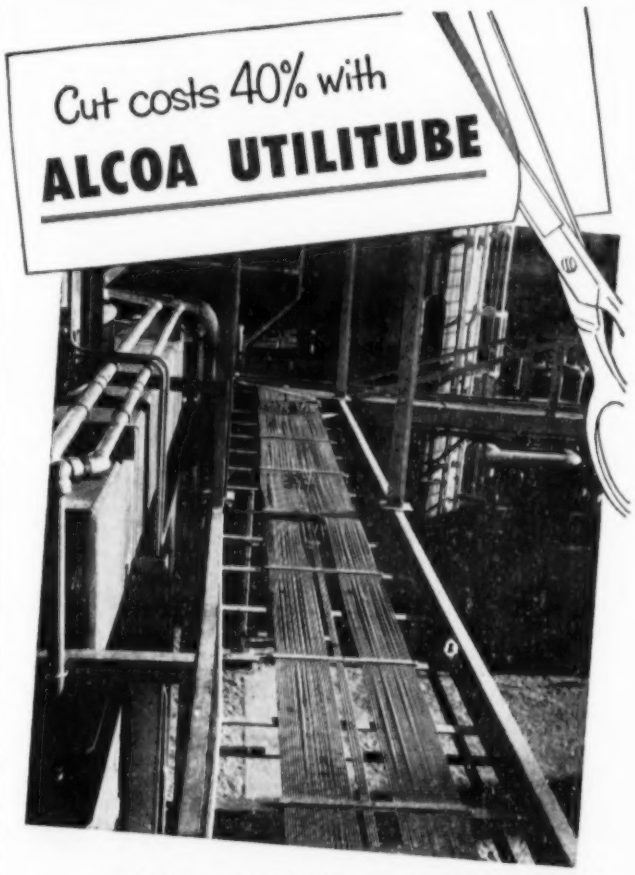
For stub or through shaft application, these new Type K clutches—rated up to .8 HP at 100 rpm—have generous safety factors throughout to stand severest service. Threaded steel adjuster permits precise easy adjustments to assure maximum capacity and minimum engaging pressure. Clutch locks itself in engaged position.

Write for new descriptive Bulletin K-1, including complete specifications.

THE EDGEMONT MACHINE CO.
2200 HOME AVENUE • DAYTON 1, OHIO

For more details circle **NED-804 L3** on enclosed inquiry slip

Cut costs 40% with **ALCOA UTILITUBE**



36,000 feet of ALCOA Aluminum Coiled Tube serves air, dried by Alcoa *Activated** Alumina, to catalytic cracking unit at the Anderson-Prichard Oil Corporation, Arkansas City, Kansas. Partially exposed to hydrogen sulfide, tubing shows no corrosion, has required no maintenance since installation in September, 1952.

ALCOA UTILITUBE* is the lowest cost corrosion-resistant tube you can buy—up to 40 per cent less than other corrosion-resistant metals. It gives you 3 times more feet per pound. It is easier to form, flare and bend than annealed copper. It will not gum, sludge or discolor the fluids it carries.

ALCOA UTILITUBE comes in standard 50 and 100 foot lengths and in economical, long lengths up to 1,000 feet in some sizes.

ALCOA UTILITUBE is designed to handle fuel and lubricants in engines, air in instrument systems, fluids in hydraulic systems, cutting compounds in machine tools, etc. For complete information, write for the new booklet: "Alcoa Utilitube."

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1002-L Alcoa Building, Pittsburgh 19, Pa.

*Registered Trademark, Aluminum Co. of America

Alcoa Aluminum

ALUMINUM COMPANY OF AMERICA

For more details circle **NED-805 L3** on enclosed inquiry slip

COLONIAL CUTTING PADS

CUT COSTS FOUR WAYS

COLONIAL CUTTING PADS can save you money in four ways—

1. They reduce die wear and breakage
2. They reduce rejects
3. They're usable on both sides
4. They're returnable—after full use—for generous credit.

Made of tough, "self-healing," non-oxidizing TYGON plastic, COLONIAL Cutting Pads are clean, dustless, and long wearing. They reduce rejects caused by dirt and dust or by double cutting due to "bounce back." They are widely used in the accurate machine or hand die-cutting of rubber, leather, plastics, cork, candy, paper, fabrics, foils, or light gauge metals. They are available in 2 hardnesses (Standard and Extra Hard) and in 9 standard sizes: 40"x40"x1", 40"x40"x¾", 20"x40"x1", 20"x40"x¾", 20"x20"x⅜", 20"x20"x¼", 20"x20"x⅛", 18"x36"x1", 8"x36"x¾".

Write, right now, for full information and prices

360

COLONIAL RUBBER CO.
RAVENNA, OHIO

▲ For more details circle **NED-806 L3** on enclosed inquiry slip ▲

WHAT A DIFFERENCE

between this . . .

and THIS

RAYMOND *Hydraulic*

Sheet & Strip FEEDING TABLE

Take a walk through your plant—and see how materials are handled at your machines. If you find makeshift arrangements, then it will pay you to investigate RAYMOND Sheet and Strip Feeding Tables! These Sheet and Strip Feeding Tables help prevent hazardous handling, reduce fatigue, increase output per worker. They enable skilled machine operators to devote their energy and time to the job you pay them to do.

With RAYMOND Sheet and Strip Feeding Tables, hydraulic power keeps the material at correct working level. The operator merely slides the material into position—no more stooping, tugging or lifting. What's more, these tables can be used to transport dies or move materials from storage to machines. Available with foot pump or electric-driven power pump—with flat or tilting top. Capacity: 2,000 lbs.

GET THE FACTS Mail the coupon and receive Bulletin 262—it describes RAYMOND Sheet and Strip Feeding Tables in detail!

The RAYMOND CORPORATION
4107 Madison St., Greene, N.Y.

Gentlemen: Please send me Bulletin 262

NAME _____ TITLE _____

COMPANY _____

STREET _____

CITY _____ STATE _____

▲ For more details circle **NED-807 L3** on enclosed inquiry slip ▲

New Literature and Catalogs

Vibrating Screen

Hewitt-Robins, Inc. — Subject of 8-page illustrated booklet 122-J is the style J Vibrex vibrating screen, designed for variety of uses including cleaning spinach, dewatering coal and sand and removing finished parts from machine shop scrap. Design features, dimensions and specifications and operating details are given. Screen is made in 24, 36 and 48-in. widths for processing up to 150 tons per hour.

▲ For more details circle **NED-803 L3** on enclosed inquiry slip ▲

Air Tools

Thor Power Tool Co.—Illustrations, descriptions and specifications of Thor No. 2 series lightweight air-operated drills, grinders, screwdrivers and nut setters are found in 12-page catalog JE-1660. Series is based on a single air motor, with one variation, and a selection of interchangeable types and sizes of handles and front end attachments.

▲ For more details circle **NED-809 L3** on enclosed inquiry slip ▲

Radio & Electronic Parts

Allied Radio Corp.—268 pages of 1954 catalog of radio and electronic parts and equipment list over 20,000 items. Included are standard and special-purpose electronic tubes, test instruments, transformers, transistors, capacitors, printed circuit components, tools, wire, photoelectric components, counters, program clocks and the RCA TV Eye, a remotely controlled television camera for industrial applications. Also listed are public address systems and technical books.

▲ For more details circle **NED-810 L3** on enclosed inquiry slip ▲

Structural Pipe Fittings

Kee Klamps—Slip-on type structural pipe fittings, made in England and imported for permanent and temporary rack and support type pipe installations, are subject of 4-page illustrated bulletin. Known as Kee Klamps, they make possible savings in labor by facilitating construction and eliminating need for threading, welding and much pipe cutting. Both pipe and fitting can be reused.

▲ For more details circle **NED-811 L3** on enclosed inquiry slip ▲

Hand & Electric Hoisting Equipment

Yale & Towne Mfg. Co., Yale Materials Handling Div.—"There's A Yale Hoist for Every Lifting Job" is a 12-page illustrated bulletin, identified as No. 1567, which shows the most suitable hoist for the big, specialized, occasional or every job. Differential, screw gear and spur geared hand hoists are compared. A check chart shows electric hoist features.

▲ For more details circle **NED-812 L3** on enclosed inquiry slip ▲

Tractor-Shovel

Frank G. Hough Co.—Action views of the model HR four-wheel drive Payloader tractor-shovel are included in catalog 255. Construction details and specifications of this and six other Payloader sizes are given. Rated capacity is 1½ cu yd.

▲ For more details circle **NED-813 L3** on enclosed inquiry slip ▲

Wet Blasting Equipment

Cro-Plate Co.—Use of Pressure-Blast wet blasting for die and mold polishing, blending grind lines, scale removal, honing of cutting tools and preplating cleaning is described in illustrated 8-page booklet. Before and after photos depict case histories. Specifications of machines are given.

▲ For more details circle **NED-814 L3** on enclosed inquiry slip ▲

Gear Casting Design

Meehanite Metal Corp.—48-page illustrated bulletin No. 42, "Meehanite Metal as a Gear Material," describes and illustrates many Meehanite gear applications and delves into subject of gear casting design. Also provided are engineering properties of both types of this metal used in gearing.

▲ For more details circle **NED-815 L3** on enclosed inquiry slip ▲

Floor Trucks

Nutting Truck & Caster Co.—Thirty-two different types of floor trucks are described and illustrated in pocket-size booklet 53-S. Specifications are given for these handling units, available in numerous standard sizes. Design and how-to-use data are also included.

▲ For more details circle **NED-816 L3** on enclosed inquiry slip ▲

COMPLETE FLOOR MAINTENANCE MANUAL

tells how to preserve floor surfaces

This free booklet is packed with floor know-how and show-how. It contains valuable tips on every conceivable floor problem. A few minutes with it can save hundreds of man-hours a year.

"Proper Care of Floors" condenses all the wide experience West Disinfecting Company's men have gathered over many years in working with thousands of acres of floors. The book tells what kind of maintenance has proved best and most economical for all kinds of floors and all kinds of traffic situations.

How should new terrazzo be handled? Can old wood floors be restored? Can cement be swept without raising dust? Can a rubber floor's deterioration be halted? Hundreds of questions like these are answered fully and authoritatively.

There is no short cut to proper floor preservation. Yet the right kind of floor treatment is easier than improper treatment. And often a floor considered hopeless has many years of service left in it if properly protected. This booklet tells how. Published by the West Disinfecting Company, Dept. 16, 42-16 West Street, Long Island City 1, N. Y.

▲ For more details circle **NED-817 L3** on enclosed inquiry slip ▲

ONE call can answer ALL your gear and sprocket needs!

. . . when you call on the complete UNION GEAR LINES AND SERVICES

Write today for your copy of our catalog

UNION GEARS

Union Gear & Sprocket Corp. 114-120 Purchase St. Boston, Mass.

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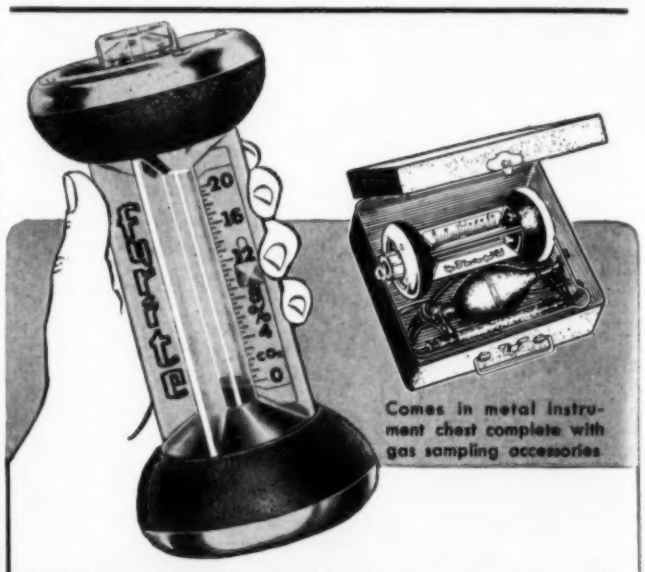

ACCURATE CO_2 Analysis in 40 Seconds!

Other outstanding features of the FYRITE CO_2 Indicator are its durable, fool-proof construction and unmatched convenience of operation. It requires no setting-up, has no valves or leveling bottle to manipulate.

The FYRITE measures CO_2 directly by the fundamental method of chemical absorption. Consequently, the reading is independent of voltage, humidity, temperature, or atmospheric pressure conditions.

Comes complete with chemical charge good for at least 300 readings. Replacing chemical merely requires removing four screws that hold top assembly in place.

Write for Bulletin 805

BACHARACH Industrial Instrument Company
7301 Penn Avenue • Pittsburgh 8, Pa.

▲ For more details circle **NED-819 L3** on enclosed inquiry slip ▲

FULLER BRUSH
makes
PROMPT DELIVERY

on stock sizes
FULLANCHOR
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BRUSHES

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Manufactured . . . Guaranteed . . . and Sold by . . .

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3530 MAIN STREET • HARTFORD 2, CONN.

Power driven brushes, Factory & Institutional cleaning tools, Waxes & Detergents

For more details circle NED-820 L3 on enclosed inquiry slip

Look To The Leader For Lubricating Devices

GITS

40 Years' Leadership

Yes, for 40 years GITS has been setting the standard for industry... solving tough lubricating problems...earning the confidence of manufacturers . . . it's the reason people say, "Call GITS first".

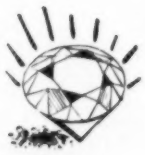
Low Cost

Yes, GITS oil cups can do a complete lubricating job for you . . . prolonging bearing life, reducing maintenance costs, cutting down-time, boosting production... and GITS oil cups cost so little.

World's Largest Selection

Yes, only GITS can offer you such a wide range of standard stock sizes. From *just one* source you can get *all* lubrication devices in *any design* for *any purpose.*

Consistent Top Quality



Yes, GITS is known for uniform quality in design, materials and machining . . . this means constant, dependable performance for you. Inferior products can cost you time and money. Demand the best ...get GITS.

Write Today for FREE CATALOG No. 60A Use it as your handy reference for lubricating devices

Oil Hole Covers, Oil Cups, Grease Cups, Bottle Oilers, Gauges, Gravity-Feed, Wick-Feed, Constant Level, Vibrating Rod Styles. Threaded or Drive-Type, Elbow or Straight.

GITS BROS. MFG. CO.
1833 S. Kilbourn Ave. Chicago 23, Ill.

For more details circle NED-821 L3 on enclosed inquiry slip

New Processes and Materials

QUICK-HEATING ELECTRODE for annealing, heat treating

Metalworking Thermo-Trode electrode is intended for quick heating, annealing, heat treating, softening, burning off paint, preheating and similar uses. It provides a source of instant heat when inserted in an ordinary electrode holder of a direct current arc welder. Instead of depositing the metal, it is oxidized so that the core metal disintegrates into a powder. Electrode is available in 1/8, 5/32 and, for heavy work, 3/16-in. diameters. Made by **Eutectic Welding Alloys Corp.,** Dept. P, 172nd St. & Northern Blvd., Flushing 58, N. Y.

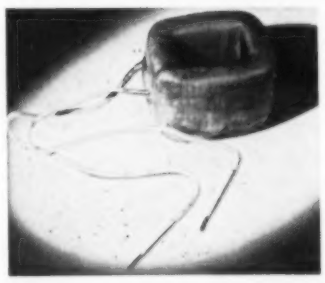
For more details circle NED-822 L3 on enclosed inquiry slip

WATERPROOFING OIL for metal, brick, wood, other uses

Wide variety of surfaces, including metal, brick, cement, wood, plaster, concrete and all types of composition wall board can be rendered waterproof and weatherproof by Protex-Oil. It can be used as a wall size, primer, sealer, rust preventive, bronzing liquid and paint extender. Made by **Adelphi Paint & Color Works, Inc.,** 86-00 Dumont Ave., Ozone Park 17, N. Y.

For more details circle NED-823 L3 on enclosed inquiry slip

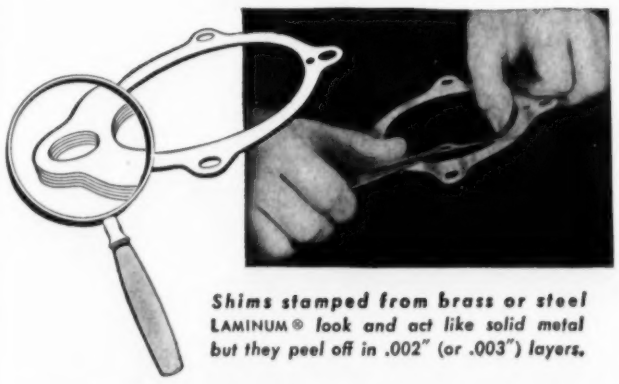
SILICONE INSULATED WIRE useable over wide temperature range



Flexibility of Sil-X glass braid-lacquered wire with General Electric SE-460 silicone rubber insulation is retained at minus 60° F. Physical and electrical properties are also maintained at temperatures as high as 400° F. Wire resists flex cracking and has low dielectric constant. Insulation is fungus resistant. Six sizes are available, UL-approved for use in lighting fixtures up to 200° C and for radio and television hookup wire up to 150° F. Sample is available from the manufacturer, **Essex Wire Corp.,** Ft. Wayne, Ind.

For more details circle NED-824 L3 on enclosed inquiry slip

LAMINATED SHIMS
SIMPLY PEEL FOR ADJUSTMENT



Shims stamped from brass or steel LAMINUM® *look and act like solid metal but they peel off in .002" (or .003") layers.*

Laminated shims provide great accuracy with easy, economical machining tolerances. This simple method of spacing adjustment reduces lathe time, eliminates standby machines. Adjustments in thousandths are made right at the job with a penknife. You eliminate the counting, stacking and mixing of ordinary shim procedure.

SEND TODAY for our Engineering Data File

LAMINATED SHIM COMPANY, INC.
2311 UNION STREET, GLENBROOK, CONN.

For more details circle NED-825 L3 on enclosed inquiry slip

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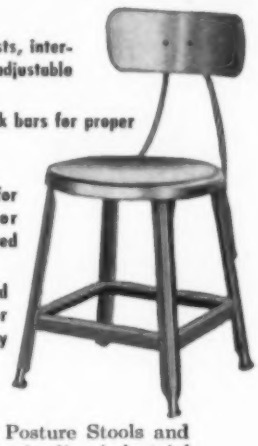
HALLOWELL
POSTURE STOOLS AND CHAIRS
designed for comfort while working

LOOK AT THESE FEATURES



- Posture back rests, interchangeable and adjustable
- Spring steel back bars for proper posture
- Seats designed for comfort, plain or Presdwood covered
- Angle braces and angle legs for strength and rigidity

This and other HALLOWELL Posture Stools and Chairs are stocked and sold by leading industrial distributors. Write for literature. SPS, Jenkintown 24, Pa.

Our Fiftieth Year : A START FOR THE FUTURE
HALLOWELL SHOP EQUIPMENT DIVISION
SPS
JENKINTOWN PENNSYLVANIA

For more details circle NED-826 L3 on enclosed inquiry slip

REMEMBER, MERLIN, WAND WAVING IS STRICTLY HOCUS POCUS!

No, not even a magician can make good on the fantastic claims attributed to cheaper solders, *the mystery alloys with a secret ingredient,* that are supposed to equal the performance of higher tin content solders. What really counts is the quality of the soldered connection . . . something you can always maintain with Kester Solder!

FREE! *Kester Technical Manual, "SOLDER and Soldering Technique." Write today for your copy!*

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For more details circle NED-827 L3 on enclosed inquiry slip

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Our staff of engineers is at your service to help solve your fabric and tape problems.

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FLIGHTEX FABRICS, INC.
91 WORTH STREET
New York 13, N. Y.

For more details circle NED-828 L3 on enclosed inquiry slip

HYDRAULIC
Fluid Power
CYLINDERS

designed to operate at pressures up to 1500 p.s.i.

single acting
capacity to 24 tons
five types of mountings

double acting
capacity push stroke
1½ to 28 tons
capacity pull stroke
1 to 25 tons
six types of mountings

telescopic
capacity up to 18 tons

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PRODUCTS PREFERRED BY CUSTOMER ACCEPTANCE

THE COMMERCIAL SHEARING & STAMPING CO.
• YOUNGSTOWN, OHIO • KA-45

For more details circle NED-829 L3 on enclosed inquiry slip

Revolutionary new Baker gas-O-matic fork truck saves money in 3 ways!

40% less fuel...

Tests by independent laboratories and industrial plants show gas consumption of about ½ gallon per hour—less than 60% as much as for conventional gas trucks. Economy results from low operating speed of engine, exclusive Baker variable voltage generator and efficient Baker drive motor.

40% lower maintenance...

No clutch or gear-shift, eliminating most common cause of gas truck breakdowns. Dependable electric drive and many new design features mean 40% lower repair costs and 40% less down time.

50% longer life...

Majority of GAS-O-MATIC parts are standard Baker electric truck parts. Government permits tax write off of electric trucks over twice as many years as for gas. With one engine replacement, GAS-O-MATIC should last 10 years or more.

Get the whole story from your Baker representative or write for Bulletin 1344

THE BAKER-RAULANG COMPANY
1245 WEST 80th STREET • CLEVELAND 2, OHIO
The Baker-Lull Corp., Subsidiary, Minneapolis, Minn. Material Handling and Construction Equipment

Baker industrial trucks

For more details circle NED-830 L3 on enclosed inquiry slip

NEW SBS WATERLESS WASHSTATION*
"brings the washroom to the worker"*
for only $52.50 per unit
(F.O.B. Saginaw, Mich.
Towel Dispensers not included)

SBS Waterless Washstations are complete units for hand washing on the job. Because they dispense SBS-30 Waterless Skin Cleanser, these Washstations require no plumbing . . . SBS-30 is simply rubbed on the hands and wiped off along with all the soil.

SBS Waterless Washstations —

• In Trouble Spots — Avoids workers use of irritating, harmful solvents. Quickly and safely removes tars, greases, paints, varnishes and other hard-to-remove soils.

• On the Production Line — Cuts to a minimum costly interruptions for hand washing.

• Actually Earn You Money — By eliminating one unnecessary trip per day for hand washing by only 10 men, you can save up to $720 annually.

Fill out and mail the coupon below for complete information about SBS Waterless Washstations and our 30-day no-risk money back trial offer.

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SUGAR BEET PRODUCTS CO., Dept. 7F, SAGINAW, MICHIGAN
Sirs: Please send me full information about the new SBS Waterless Washstation and your 30 day no-risk money back trial offer.
NAME
TITLE
COMPANY
CITY ZONE STATE

SUGAR BEET PRODUCTS CO. • Saginaw, Mich.
Chemical By-Products Division

For more details circle NED-831 L3 on enclosed inquiry slip

New Literature & Catalogs

Steam & Hot Water Boilers

Kewanee-Ross Corp.—M-800 series boilers for high and low pressures and designed for oil or gas firing are described and illustrated with detailed listings of ratings, dimensions, standard equipment and trim in 6-page catalog 9B. Series is practical for use with any quality oil, gas or combination oil-gas burner to form a complete boiler-burner unit.

For more details circle NED-832 L3 on enclosed inquiry slip

Vapor Degreasers

Currier Co.—Vapor degreasing is subject matter of catalog which shows Standard sizes as well as the lower cost Drum Major line of degreasers. Units designed for special jobs are shown also. Catalog is illustrated with typical examples of these units, including specifications.

For more details circle NED-833 L3 on enclosed inquiry slip

Refrigeration Units

Worthington Corp.—Three models of Freon-12 refrigeration units covering capacities of ¾ to 3 hp are described in bulletins C-1100-B42B, B43B, and B48. Available models are equipped with air-cooled, water-cooled and combined air-water cooled condensers.

For more details circle NED-834 L3 on enclosed inquiry slip

Precision Screw Machine Products

Z & W Machine Products, Inc.—Planning, development, engineering and production facilities of this company for producing precision screw machine products to exacting customer requirements are detailed in 16-page illustrated brochure. History of company as well as typical parts made to specification are covered.

For more details circle NED-835 L3 on enclosed inquiry slip

Electric Generating Plants

D. W. Onan & Sons Inc.—Answers to prospective plant owner's questions regarding engine driven electric generating plants ranging in size up to 60 kw are given in 36-page illustrated "Blue Book." Data are given on direct current, alternating current and battery charging units driven by gasoline, diesel and gas engines. Advantages and applications of each type are discussed.

For more details circle NED-836 L3 on enclosed inquiry slip

Ultrasonic Cleaning

Detrex Corp.—The Soniclean Process, which applies ultrasonic energy to clean metal parts, is explained in a new technical folder. Principles and methods used are given. Process will clean any non-absorbent material such as metal or glass, and readily removes the most difficult soils. Conveyorized machine shown provides more than 120 work carriers per hour.

For more details circle NED-837 L3 on enclosed inquiry slip

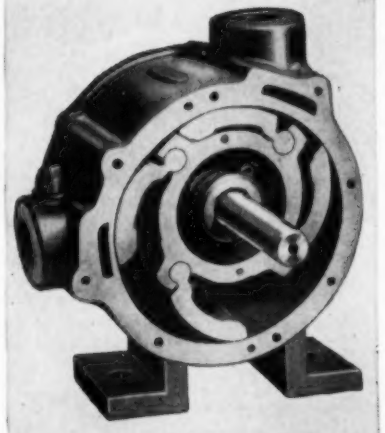
If the equipment you design calls for 29.9" of vacuum or 25 psi pressure

READ what your prospects say about LEIMAN Pumps

"Never wear out."

"In almost continuous operation, 24 hours a day for 21 years. Absolutely reliable."

"Requires practically no maintenance care."

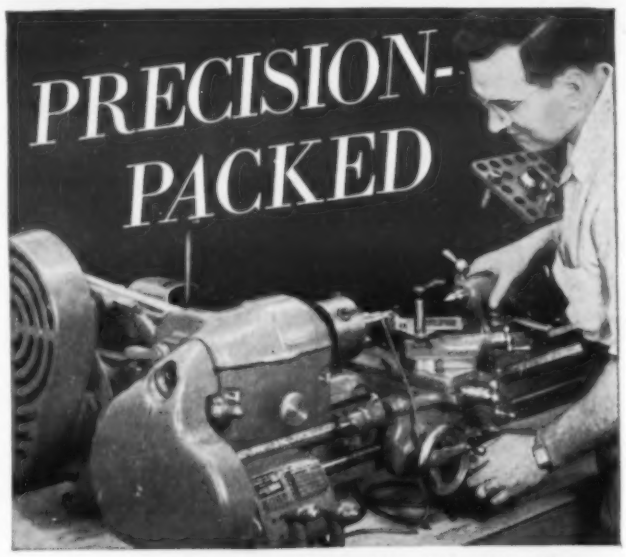


Wings in this Leiman Pump take up their own wear, year after year, and always maintain contact with cylinder wall. *See our Listing in Sweet's Product Design File*

Write for 16-page catalog and blueprints of typical applications on Leiman rotary positive pumps—choice of industry since 1889.

LEIMAN BROS., INC.
167 Christie Street, Newark 5, N. J.

For more details circle NED-838 L3 on enclosed inquiry slip



South Bend Light Ten Lathe

Here's precision packed into the ideal machine tool for machining small to medium-sized parts. Compact and sturdy, the South Bend Light Ten Lathe will help you meet your production schedules with economy and ease. Write for catalog.

Can I get it? When? How?

Yes—you can get most any South Bend product immediately from our distributor's stocks in principal cities. Items are stacked, shipped promptly from factory.

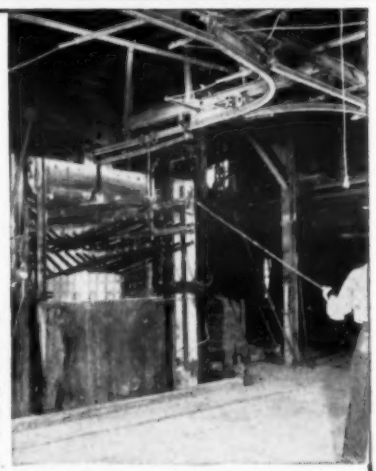
Three ways to order:
1. See or telephone nearest distributor.
2. Order by mail from your distributor.
3. If no distributor is nearby, order direct from factory.

South Bend machine tools with accessories may be purchased on convenient terms up to 72 months.

SOUTH BEND LATHE
SOUTH BEND 22, INDIANA
Building Better Tools Since 1906

For more details circle NED-839 L3 on enclosed inquiry slip

MONORAIL ELIMINATES REHANDLING



MonoRail over furnaces allow rapid in-out movement. Carriers made of special alloy withstand temperatures up to 1800° F.

From start to finish, one single MonoRail system provides a continual flow operation at this plant. The same racks loaded at the spray booths carry the ware into and out of firing furnaces. Many of the handling operations once unavoidable are now eliminated. Savings in labor alone has fully justified the investment in this system. And true of all American MonoRail Overhead Handling Installations is the extremely low maintenance cost.

Why not let an American MonoRail engineer give you all the facts about savings and advantages?

SEND FOR BULLETIN C-1

AMERICAN OVERHEAD HANDLING EQUIPMENT MONORAIL COMPANY
13116 ATHENS AVENUE • CLEVELAND 7, OHIO

For more details circle NED-840 L3 on enclosed inquiry slip

WHEN YOU USE "Streamliner" CONVEYORS

"Streamliner" Gravity Roller Conveyors are "custom-engineered" in several types to meet special as well as standard requirements. No doubt you can use such a cost cutting conveyor in your plant. To get examples of these conveyors in action, write for Bulletin 100.

"STREAMLINER" GRAVITY CONVEYORS • POWER CONVEYORS • CONVEYOR SYSTEMS

HARRY J. FERGUSON COMPANY
133 WEST AVENUE, JENKINTOWN, PENNA.

For more details circle NED-841 L3 on enclosed inquiry slip

In Your Design?

PITCHLIGN
THE BEARING THAT OUT PERFORMS ALL OTHERS

CHECK THESE FEATURES!

- Pitch line roller alignment.
- Positive cage control.
- Thrust is absorbed by the flanges, NOT the cage.

PITCHLIGN
Trade-Mark
ROLLER BEARINGS

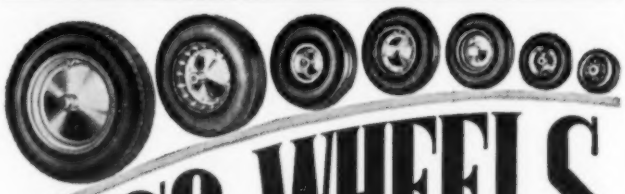
Pitch circle alignment with cage contact at the extreme roller length controls the rollers at all times. Get the facts!

Write Today!

Ask for Bulletin SF-966

RBC
ROLLER BEARING COMPANY OF AMERICA
SULLIVAN WAY • WEST TRENTON, N.J.

For more details circle NED-842 L3 on enclosed inquiry slip



DICO WHEELS ARE ROLLING Everywhere!

DES MOINES 5, IOWA
DICO

From 6" to 24.5" Rubber Tire Diameters.
Pneumatic—Drop Center and Demountable Rim.
Cushion and Solid Rubber Bolted Types.
Heavy Duty Wheels with Molded-on rubber.

DICO COMPANY

Let DICO help you with your wheel problems. Write for complete catalog.

206 S.W. 16th ST., DES MOINES, IOWA

For more details circle NED-843 L3 on enclosed inquiry slip

Clean...Dry...*Slip-Safe* Floors IN JUST 90 SECONDS!

Now dirty, slippery factory floors can be scrubbed during working hours . . . *without interrupting work routines for more than 90 seconds!* HILD Shower - feed Scrubbing speedily loosens stubborn grease and slippery oil accumulations. The HILD Vacuum then *instantly* and *completely* suctions up dirty scrub-soap solution. Floors are left clean, dry and *slip-safe* . . . without rinsing or mopping. HILD Equipment is designed to reach the danger spots under and around machines.

Only HILD has the Shower-feed Brush

Write today for FREE CIRCULAR!

HILD FLOOR MACHINE COMPANY
740 W. Washington Blvd., Dept. NE-11 Chicago 6, Ill.

FACTORY BRANCHES
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HILD System
MAINTENANCE EQUIPMENT & SUPPLIES

For more details circle NED-844 L3 on enclosed inquiry slip

New Processes & Materials

PIPE INSULATOR
for underground hot piping, also protects against corrosion

Adaptable for insulating and protecting hot underground pipe from corrosion, Gilsulate, a form of solidified petroleum, provides permanent protection against such corrosive factors as alkaline ground waters, electrolysis, root attacks and bacterial action. Three grades are available, effective for temperature ranges between 220 and 520° F. Product is poured and tamped around pipe laid in the usual manner to the required depth, and the trench is then backfilled.

When the system is heated, that layer of the insulator next to the pipes fuses to the pipe, the next layer is sintered, and the last layer remains unconsolidated. Each layer contributes different complementary insulating properties. Tests have shown heat loss as being from 8 to 11 per cent of that occurring from bare buried pipes. Made by **American Gilsonite Co.**, 248 S. Main St., Salt Lake City 1, Utah.

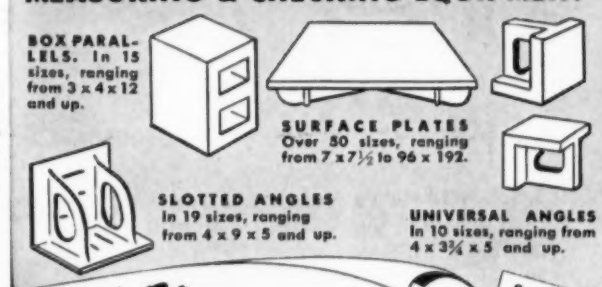
For more details circle NED-845 L3 on enclosed inquiry slip

RUBBER CONVEYOR BELT
sheds or retains water as desired

A surface that sheds or retains water as desired is feature of this Riffle Grip rubber conveyor belt. Cover design consists of 1/8-in. high molded rubber ridges formed in continuous series of chevron patterns spaced several inches apart. Operating on predetermined conveyor incline angle with belt idlers also placed at specified angle, ridges channel water to edges of belt where it flows off. Material conveyed rests in center of belt and makes trip free of water. Adjustment of conveyor incline and angle of belt idlers changes chevron patterned surface into series of horizontal carrying ribs which retain water on belt and allow even distribution of moisture throughout material. In this way, belt can handle wet mixed concrete and similar moist materials on steep inclines. Made by **B. F. Goodrich Co.**, Dept. E, 500 S. Main St., Akron 18, O.

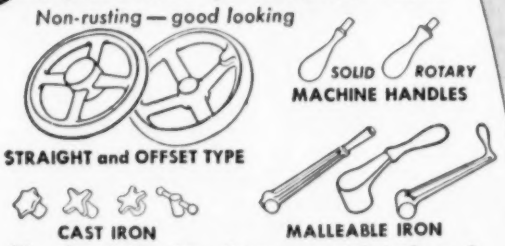
For more details circle NED-846 L3 on enclosed inquiry slip

Dependable
MEASURING & CHECKING EQUIPMENT



and Now
HAND WHEELS, KNOBS, HANDLES
Cadmium Plated READY TO DELIVER
Non-rusting — good looking

Send for Complete Catalog



We also build jigs, fixtures, special tools and machinery. Send us your blueprints.

MACHINE PRODUCTS CORPORATION
6771 E. McNichols Rd. Dept. B Detroit 12, Mich.

For more details circle NED-847 L3 on enclosed inquiry slip

TO MAKE AND INSTALL V-BELTS IN MINUTES WITH BRAMMER

You can measure, couple, and install Brammer "V" Link Belting in minutes without dismantling, fuss, or special skill. Slashes down-time. Adjusts simply.

NEW **IMPROVED BRAMMER BELTS GIVE YOU THESE NEW ADVANTAGES**

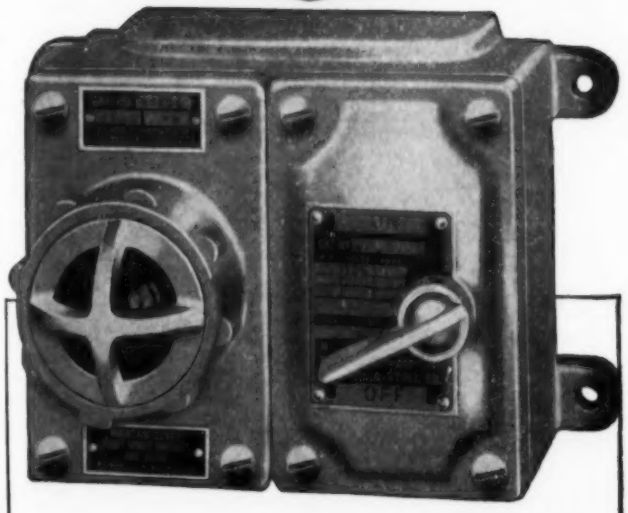
NEW PRE-STRETCHING — NEW BRAMMER TOOL
NEW SIZE-IDENTIFICATION — NEW IMPROVED COMPOUND
NEW PERMALIFE RIVET — NEW GREEN FOR NEOPRENE

WRITE TODAY FOR SAMPLE, CATALOG!

BRAMMER CORPORATION
684 Broadway
New York, N.Y.

For more details circle NED-848 L3 on enclosed inquiry slip

R & S EXPLOSION-PROOF EQUIPMENT



The wide variety of R & S explosion-proof equipment includes many standard enclosures—compact units possessing a high degree of flexibility and "packaged" safety. Circuit Breakers, EFS Switches, Push Buttons, Pilot Lights, Motor Starters, Combinations and individual Panels up to 32 circuits . . . all have slide operating mechanisms, removable front covers, abundant wiring space and conduit outlets . . . along with individual features that meet all standards, *plus!*

R & S custom-built panelboards composed of standard enclosures factory assembled, sealed and tested, offer many advantages over special designs and field assemblies.

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RUSSELL & STOLL COMPANY, INC.
125 BARCLAY STREET • NEW YORK 7, N. Y.
C4

RUSSELL & STOLL

PRECISION-BUILT ELECTRICAL EQUIPMENT—SINCE 1902

For more details circle NED-849 L3 on enclosed inquiry slip

Commander
TAPPER

★ Wider Range...1 Tapper Handles #0 to 3/4" Taps

★ Automatic Tap Protection

★ Furnished to fit any Drill Press

Commander—"The Tapper That Thinks For Its Operator," has the adjustable full range torque control that instantly stops any tap when it becomes dull, loaded, strikes a hard spot or bottoms in blind hole tapping. Assures maximum tap protection, higher production, even with inexperienced operators.

Your nearby Commander Distributor can give you a demonstration in your own plant. Write for his name and a copy of the NEW Commander Full Line Catalog #851

COMMANDER MFG. CO.
4220 W. Kinzie St. Chicago 24, Ill.

Product of Commander...Builder of Production Tools

For more details circle NED-855 L3 on enclosed inquiry slip

IT'S A CINCH TO CLINCH WITH AUTO-NAILER*

Auto-Nailer makes and drives its own nails — clinched or bradded—3 a second. No jigs necessary; will nail any pattern. Auto-Nailer is flexible: changing from one size or design to another requires no machine adjustment.
Autonails reduce nail costs. Use only length that's needed. None bent or lost. Shooks are auto-nailed under 1000 lbs. pressure. Even knots are nailed in stride. Write today for free catalog.

AUTO-NAILER CO.
269 MARIETTA ST., N.W., ATLANTA 3, GA.

*Trade Mark Registered

For more details circle NED-856 L3 on enclosed inquiry slip

use AVERY Kum Kleen LABELS

- REDUCE LABELING COSTS
- ELIMINATE WASTE MOTION
- SPEED ASSEMBLY OPERATIONS

Because Avery labels are pressure sensitive, they're the fastest, easiest and most economical labels you can use...for nameplates and trademarks, for guarantees and instructions—for approval seals, diagrams and many, many other uses.
They can be supplied in any size, shape or color...on backing tape in roll or sheet form...to meet your own specific labeling requirements.
You can save time and money by using these labels in YOUR business. Clip the coupon for FREE samples.

With Avery electric dispensers labeling is as much as 5 times faster than with ordinary methods!

AVERY ADHESIVE LABEL CORP., DIV. 102
117 Liberty St., New York 6 — 608 S. Dearborn St., Chicago 5
1616 S. California Ave., Monrovia, Calif. — Offices in Other Principal Cities

☐ Send us case histories & free samples
☐ Tell us about your dispensers
☐ Have the Avery Label Man call

Name.....
Company.....
Address.....
Our business is:.....

For more details circle NED-857 L3 on enclosed inquiry slip

New Literature & Catalogs

Pyrometer Supplies

Minneapolis-Honeywell Regulator Co., Industrial Div.—Buyer's Guide 100-5 illustrates and describes all general thermocouple assemblies and components, as well as many special purpose items. Data on selection, care and application of thermocouples are also found in the 48-page catalog.

For more details circle NED-858 L3 on enclosed inquiry slip

Liquid & Vapor Separators

Otto H. York Co.—How Yorkmesh Demisters work and how they are applied is subject of 4-page bulletin No. 15. It describes through illustrations and text how these entrainment separators and mist eliminators improve performance of vacuum towers, distillation equipment, gas absorbers, scrubbers, separators, evaporators, etc.

For more details circle NED-859 L3 on enclosed inquiry slip

Warehouse Association Roster

Names, addresses, and telephone numbers of almost 800 warehouse distributors of industrial steels are included in the 112 pages of the 1953 roster of American Steel Warehouse Association members. Warehouses are listed alphabetically and by 24 market areas. Roster available from the Association, 442 Terminal Tower, Cleveland 13, O., for $1.50.

For more details circle NED-860 L3 on enclosed inquiry slip

Safety Switches

Federal Electric Products Co. — Copiously illustrated, bulletin contains complete information on all Federal Noark safety switches. Line includes units for service ranging up to 2000 amp, including front-operated visible blade, double-throw, and various rain-tight and cast enclosures. Safety features are described, and complete ordering information provided.

For more details circle NED-861 L3 on enclosed inquiry slip

Level Indicator

Robertshaw-Fulton Controls Co., Fielden Instrument Div.—Graphic 8-page illustrated technical bulletin is devoted to Telstor electronic level indicator. Instrument features simplified circuitry, accuracy to plus or minus 2 per cent and continuous indication at remote or local stations.

For more details circle NED-862 L3 on enclosed inquiry slip

Nickel Alloy Steel Welding

International Nickel Co. — 44 fact-packed pages comprise bulletin A-93 which is entitled "The Welding of Nickel Alloy Steels." This study deals with welding techniques including some of the newer inert gas processes, electrodes, preheat treatments and post heat treatments. Results that can be expected with low alloy high strength steels, low carbon and medium carbon engineering alloys steels and special steels are given.

For more details circle NED-863 L3 on enclosed inquiry slip

Your Best Buy in Burs!

S.S.WHITE BURS cut fast, clean and cool and give long-lasting economical service. Cutting edges are keen — and stay sharp. There's a full selection of sizes and shapes of chromed, and carbide burs for cutting brass, steel, wood, hard rubber, bone or any other material that can be bored or milled by sharp-edged hardened steel tools.

WRITE TODAY for 50-page Catalog T-51
It completely describes the full line of S.S. White flexible shaft tools and other industrial products.

THE S.S.White INDUSTRIAL DIVISION
DENTAL MFG. CO. Dept. 7, 10 East 40th St. NEW YORK 16, N. Y.
WESTERN DISTRICT OFFICE: Times Bldg., Long Beach, Calif.

For more details circle NED-864 L3 on enclosed inquiry slip

New "PULL-GEAR" SPEED-REDUCING PULLEY Increases Drill Press Capacity

NEW MODEL
Provides Correct Speed and Power to Drill Up to 1 3/8" with 1/2 H.P. Motor

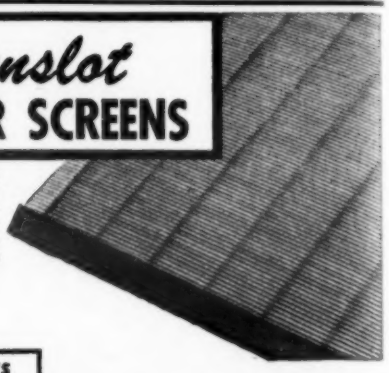
Amazing new internally geared speed reducer doubles drill press capacity. Greater power, greater efficiency, greater productivity.
Provides the correct speed and power for larger drilling, reaming, tapping and boring on light presses. Easily installed in five minutes. Adaptable to all type machines. Spindle speed range approx. 45 to 3000 RPM. Made in 3 motor shaft sizes: 1/2" - 5/8" - 3/4". Write for literature.

Some Territories Open to Jobbers

THE PULL-GEAR CO.
4118 E. 8-Mile Rd., Detroit 34, Mich.
WRITE FOR LITERATURE

For more details circle NED-865 L3 on enclosed inquiry slip

Kleenslot VIBRATOR SCREENS

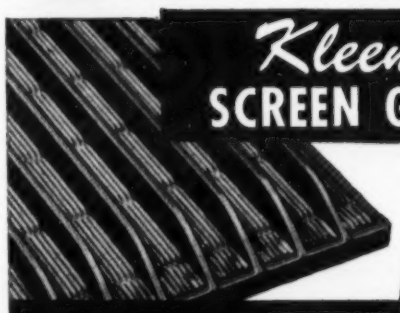


They can be DESIGNED AND ADAPTED TO FIT ANY MAKE OF VIBRATOR. Perfect separation on wet or dry screening. Accurate performance on hundreds of installations.

HERE'S HOW IT'S DONE

Cross section at left shows how KLEENSLOT Screens operate on a non-clogging principle.

Kleenslot SCREEN GUARDS



The screen guard is built into the screen and the guard bars permit only the finer particles to pass over the screen. All sizes and most materials furnished.

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Wedge-Wire CORPORATION
5604 CLARK AVE. CLEVELAND 2, OHIO

For more details circle NED-866 L3 on enclosed inquiry slip

You Get DOUBLE the WEAR LIFE the STRENGTH with NEW, fortified

ROALOX MILL JARS

and less than half the contamination . . . All this for but a few cents more per unit cost!

"U. S." New ROALOX MILL JARS are now made of a remarkable ceramic body, closely related to Burundum — the popular, high-density grinding medium. This improved ceramic body wears two to three times more slowly than conventional porcelain, contains substantially *less* silica, reducing silica contamination to a negligible point.
And greatly increased mechanical strength lessens breakage hazard, cutting replacement costs still further.
A suggestion — invest in a New Roalox Mill Jar . . . run it alongside conventional porcelain jars. You'll be amazed at the longer, *effective* grinding life the Roalox Mill Jar provides!
The following 8 sizes are available— 1/2 pt., 1/3 gal., 1/2 gal., 1 1/3 gal., 2 1/3 gal., 3 1/2 gal., 4 1/2 gal. and 6 gal.

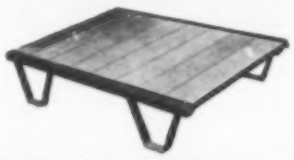
267-D Write for Bulletin 270 for full particulars

U. S. STONEWARE
Akron 9, Ohio

For more details circle NED-867 L3 on enclosed inquiry slip

In production or in storage

IRONBOUND EQUIPMENT HANDLES SMALL PARTS MORE EFFICIENTLY



Standard 2-way entry bolted type skid built to handle loads up to 5 tons.

Standard box top welded to standard skid. Available too, with removable boxes. Handles many items in production and storage.

Flexible arrangement of boxes and skids permits tiering and stacking to meet your individual requirements. Provides quick availability, easy handling, or storage for complete units or parts.

Each of the units illustrated has an important use in modern industry. Ironbound skid platforms and box tops are prime sources of increased plant capacity so vitally needed today. Our representative can help you to increase your output and plant space. Catalog GP-7 may help you, too!

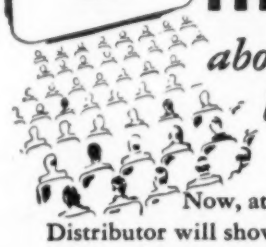
IRONBOUND
BOX & LUMBER COMPANY
Materials Handling Division
55 HOFFMAN PLACE • HILLSIDE, N. J

MANUFACTURERS OF QUALITY BUILT SKIDS, SEMI-LIVE SKIDS, FLOOR TRUCKS, ROLL TRUCKS, DOLLIES AND PRY BARS

▲ For more details circle **NED-868 L3** on enclosed inquiry slip ▲

GET IN THE KNOW

about anti-friction bearing care



Now, at no cost to you, your SKF Distributor will show your plant operating men two educational sound slide films about the characteristics, handling, installation, removal and lubrication of any anti-friction bearings. They can help you minimize bearing replacements. 7436

Consult the Classified Section of your phone book—call your SKF Distributor—he'll arrange a showing for you.

SKF INDUSTRIES, INC., PHILADELPHIA 32, PA., *manufacturers of* **SKF** *and* HESS-BRIGHT *bearings.*

SKF®
BEARINGS AND PILLOW BLOCKS

▲ For more details circle **NED-869 L3** on enclosed inquiry slip ▲

"Get Out From Under-"

Federal "J" Siren cuts through high noise levels to save lives!

You never know when a cable might break or a load might shift. Unless warned, workers on the craneway face swift falling death from above.

Shouting won't do it, nor will an ordinary signal. You need a powerful, distinctively high-pitched Federal "J" siren . . . a siren that overcomes intensely high noise levels. The Federal "J" is a heavy duty siren specifically designed for electric cranes and operating long periods of time repeated 24 hours a day. Where heavy duty, high-frequency of operation is necessary — where distinctive, penetrating sound protection can save lives — install a Federal "J" siren.

Write now for Industrial Sirens Bulletin No. 111

FEDERAL ENTERPRISES, INC.
Formerly: Federal Electric Company, Inc.
8711 South State Street • Chicago 19, Ill.

▲ For more details circle **NED-870 L3** on enclosed inquiry slip ▲

New Processes & Materials

HEAT-RESISTANT ENAMEL
nonyellowing up to 500° F

Recommended for use on phosphatized and clean steel, Kemclad Hi-Heat enamel is nonyellowing under sustained temperatures up to 500° F. It is intended for application to household appliances and other equipment exposed to such temperatures and is made in white only. Range of colors can be made if demand warrants. Coating is a modification of the silicone class of materials which possesses impact resistance to prevent chipping. Gloss is retained despite exposure to high temperatures. Application can be with conventional spray equipment and baking period is 30 minutes at 400° F. It has also been successfully subjected to salt spray, hot grease, humidity and chemical tests. Made by **Sherwin-Williams Co.,** Dept. E, 101 Prospect Ave. N.W., Cleveland 1, O.

▲ For more details circle **NED-871 L3** on enclosed inquiry slip ▲

CUTTING FLUID SELECTOR
covers all common machining jobs

Helping to determine which cutting fluids can be used for various machining operations, this cutting and grinding fluid selector is available free of charge. Every common machining job for steel and stainless steel, magnesium, brass, Monel, copper and aluminum is given, together with machinability ratings of the various metals. Instructions and rules of thumb for using Stuart fluids are also given. Write **D. A. Stuart Oil Co.,** 2747½ S. Troy St., Chicago 23, Ill.

▲ For more details circle **NED-872 L3** on enclosed inquiry slip ▲

FIRE INSULATION MATERIAL
for applying to LP gas tanks

For fire-insulating propane and butane above-ground storage tanks against fire, K-20 concrete mix is a lightweight insulating concrete with a kaolin base and a hydraulic setting cement binder. It is applied with a cement gun to a thickness of 1½ in. on the outside of the tank, and is supported with steel car binding straps located about 2 ft apart. It is then sprayed with a weatherproofing compound to complete the application. Tests show that steel tank panels so treated do not rise in temperature above 400° F when subjected to a furnace temperature of 2000° F for two hours. For the shell of a tank under emergency fire exposure the safe limit is considered to be 800° F. Made by **Babcock & Wilcox Co.,** Refractories Div., 161 E. 42nd St., New York 17, N. Y.

▲ For more details circle **NED-873 L3** on enclosed inquiry slip ▲

no more cold feet with Electro-Mat

helps prevent colds

Production line and office workers can now work in absolute comfort

The new low priced ELECTRO MAT throws off a gentle warmth that keeps workers healthy, happy and comfortable. 14" x 21" portable foot warmer is safe and economical . . . consuming less power than a 75 Watt light bulb. It is made of high quality neoprene rubber.

Attention Employers

Increase the efficiency of your employees and help prevent colds which cause absenteeism by equipping each employee with an Electro Mat.

Mail check or money order today Only **$6.95** f.o.b. factory.

IMPORTANT SAVING: If 6 or more Electro Mats ordered price is only $5.95
Please send me: ☐ Electro Mat at $6.95 each.
Enclosed is my check ☐ money order ☐
☐ C.O.D. I am enclosing $1.00. Will pay postman balance of $5.95 plus C.O.D. and freight charges.
Name _____
Street _____ Zone ____
City _____ State ____
10 Day Money Back Guarantee
INTERSTATE RUBBER PRODUCTS CORP., Dept. 114
908 Avila St., Los Angeles 12, California

Dealer Inquiries Invited.

▲ For more details circle **NED-874 L3** on enclosed inquiry slip ▲

BEND, MELT, SOLDER, BRAZE

LOW COST... only $6.95 Retail

faster and more easily
with completely PORTABLE
BERNZ-O-MATIC
Instant lighting TORCH

Here is the ideal tool for all general factory maintenance and production line work.

- ***LIGHTWEIGHT***—only 3 lbs. full.
- ***PORTABLE***—fits in tool box or pocket. No heavy tanks or tangling hoses.
- ***LOW COST***—only $6.95 (retail).
- ***LONG BURNING***—disposable self-sealing cylinder has enough fuel for up to 15 hours burning time. When empty replace for only $1.95 (retail). Many accessories such as soldering tips, belt clip, stand, etc.

Stocked by leading hardware, plumbing, automotive and electrical wholesalers and mill supply houses. Or write for catalog page.

OTTO BERNZ CO., INC.
280 LYELL AVENUE • ROCHESTER, N. Y.

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If you have a LIFTING PROBLEM you need this VALUABLE BOOK!

Actual illustrated case studies of lifting and materials handling problems in warehouses, industrial plants, laboratories, print shops, hospitals, terminals. This valuable book shows how Globe OiLIFTS help you make the most of manpower and keep costs under control. Use the coupon to get this book *free.*

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1000 E. Mermaid Lane, Philadelphia 18, Pa.

Globe Hoist Company NED-529A
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Send me without charge or obligation a copy of "Case Studies in Modern Lifting."

Name.....
Company.....
Address.....
City and Zone.....State.....

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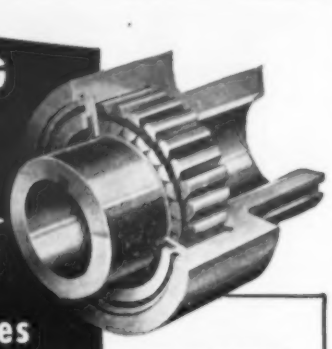
FORMSPRAG CLUTCHES Are Full Complement Clutches



OVER-RUNNING
INDEXING (Feeding)
BACKSTOPPING

A FULL COMPLEMENT OF SPRAGS—between two races—provides an infinite number of gripping positions. This, along with Formsprag's internal simplicity, means: INSTANTANEOUS, ACCURATE OPERATION with no *backlash* . . . LONG LIFE because of changing contact points . . . MAXIMUM TORQUE CAPACITY for size and weight.

Before you specify another clutch, be sure to read this 10-page folder of technical engineering data. Just write to Formsprag — on your letterhead, please.

FORMSPRAG Company 23595 HOOVER ROAD VAN DYKE, MICHIGAN

For more details circle NED-877 L3 on enclosed inquiry slip

Goes Further.... Seals Better....

PLS*

"John Crane" *Plastic Lead Seal is the most economical all-purpose sealing compound for pipe joints, studs and gaskets—*because you use less to get a better seal.* PLS seals for the life of the connection, yet never hardens, allowing joints to be easily broken after years of service.

PLS prevents galling . . . is insoluble in water, gas, steam, many chemicals and all petroleum products. Use it for all services . . . low or high pressure applications up to 6000 psi. . . . temperatures to 500°F. Carries the Underwriters' seal of approval.

Prove to yourself that it takes less PLS to give a perfect seal. Send for a generous free sample. Crane Packing Company, 1811 Cuyler Avenue, Chicago 13, Illinois.

JOHN CRANE CRANE PACKING COMPANY

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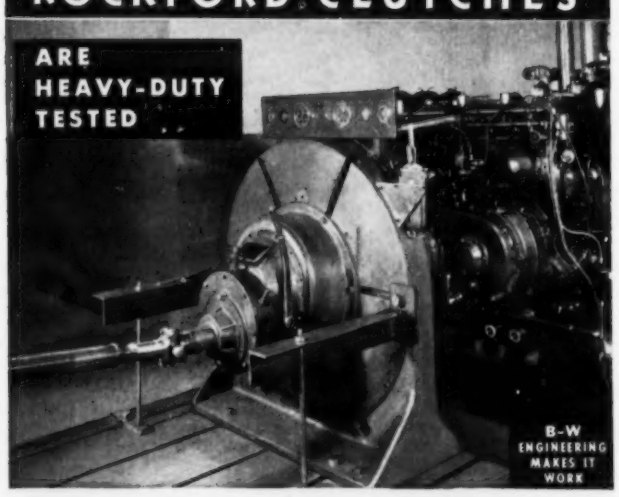
ROCKFORD CLUTCHES ARE HEAVY-DUTY TESTED . .



Large ROCKFORD clutches, Power Take-Offs and Speed Reducers are tested for torque, engaging pressure, release, temperature, gear strength, bearing endurance and clutch facing wear on this 400 H.P. diesel powered, electric dynamometer. Let ROCKFORD engineers utilize this machine to improve *your* heavy-duty power transmission controls.

B-W PRODUCTION MAKES IT AVAILABLE

ROCKFORD CLUTCH DIVISION BORG-WARNER
312 Catherine Street, Rockford, Illinois, U. S. A.

For more details circle NED-879 L3 on enclosed inquiry slip

New Literature & Catalogs

Cabinets & Enclosures

Danco Metal Products, Inc.—Various types of sheet steel and aluminum cabinets and enclosures fabricated by this company are shown in 8-page illustrated folder "Metal Fabricating by Danco". Facilities and equipment for contract work of this nature are illustrated. Products range from large power-shovel cabs to instrument panels.

For more details circle NED-880 L3 on enclosed inquiry slip

Rust Preventive

Nox-Rust Chemical Corp., Rust Prevention Div.—Nox-Rust protective coatings which may be brushed or sprayed onto metal surfaces to prevent rust or further rusting are described in 6-page illustrated folder. Compound is available in a variety of different colors.

For more details circle NED-881 L3 on enclosed inquiry slip

Soap Dispensing Equipment

Bobrick Mfg. Corp.—Soap dispensers, valves and tanks are described in a new illustrated catalog. Various models are available, and capacity, dimensions and specifications of each are given.

For more details circle NED-882 L3 on enclosed inquiry slip

Truck Crane

Thew Shovel Co.—The 6-ton TL-10 truck is presented at work in a "picture-book" of on-the-job views. This crane can be used on commercial truck chassis, while retaining all turntable features of the Lorain TL series. Brochure shows mounting procedures, accessory equipment and points up various features.

For more details circle NED-883 L3 on enclosed inquiry slip

Gas Analysis Apparatus

Burrell Corp.—48-page illustrated catalog No. 81 gives methods and apparatus for gas analysis. Laboratory, cabinet and portable apparatus are included in this line. Accessories also shown include reagents and solutions, manifolds, pipettes, sampling tubes and oxidation equipment.

For more details circle NED-884 L3 on enclosed inquiry slip

Steel Industry Conveyors

Link-Belt Co.—Pictured and described in 20-page booklet 2464 are conveyors for the steel industry. Types shown include various coil conveyors, and also belt and overhead trolley units. Each is shown at work by photographs.

For more details circle NED-885 L3 on enclosed inquiry slip

Operating a Lift Truck

Hyster Co. — Packed with information about the operation of a lift truck, preventive maintenance, safety and basic materials handling, fifth edition of booklet "How to Operate a Lift Truck" is now available. Cartoons as well as drawings for setting up an obstacle course are utilized.

For more details circle NED-886 L3 on enclosed inquiry slip

HOW DID THE *screw* GET ITS NAME?

Words and names evolve over a period of years. "Screw," which probably comes from the Latin "scrofa," has been used for generations. Tradition has made it part of the language.

Today, Allmetal—maker of stainless fasteners—owes its good name to a tradition of high quality and fast service. If you need anything from our line, give us the word.

Want our 96-page catalog? Write, on your letterhead, for catalog 53-L.

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PRECISION-FINISH YOUR OUTSIDE DIAMETERS The Odee-HONE

★ ACCURATE
★ INEXPENSIVE
★ VERSATILE
★ LIGHTWEIGHT

Corrects out-of-roundness, waviness, chatter . . . Generates diametric size within .0001" tolerance . . . Hones all parts from ½" to 2½" in diameter—regardless of length or material . . .

Can be used on any lathe, drill press, electric drill . . .

Simple to set up and operate—no aligning, fixturing or wheel dressing is necessary . . .

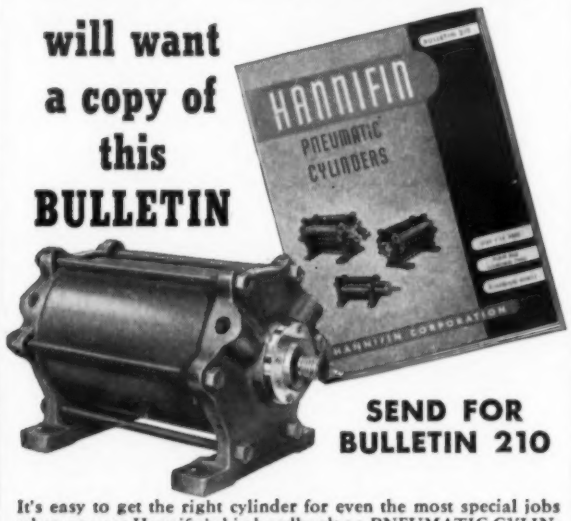
Removes a few "tenths" or a few "thousandths" stock in less time than it takes to re-center, indicate a part, and dress an abrasive wheel.

Write to:

MICROMATIC HONE CORPORATION
8100 SCHOOLCRAFT • DETROIT 38, MICHIGAN
Guilford, Conn. • Rockford, Ill. • Los Angeles 23, Cal. • Brantford, Ont., Canada

For more details circle NED-888 L3 on enclosed inquiry slip

EVERY ENGINEER will want a copy of this BULLETIN



SEND FOR BULLETIN 210

It's easy to get the right cylinder for even the most special jobs when you use Hannifin's big handbook on PNEUMATIC CYLINDERS. 49 pages of helpful specification and engineering data, complete with diagrams and dimensions. The Hannifin line is complete! 6 standard mountings . . . many combination mountings . . . adjustable cushions at either or both ends . . . 2 types of pistons . . . bores to 16". Exclusive construction features assure trouble-free, efficient operation. Send for Bulletin 210. Hannifin also builds custom cylinders in quantity to special design. *Bring us your cylinder problems.*

HANNIFIN
1127 S. Kilbourn Ave., Chicago 24, Ill.
Air and Hydraulic Cylinders • Presses • Air Control Valves

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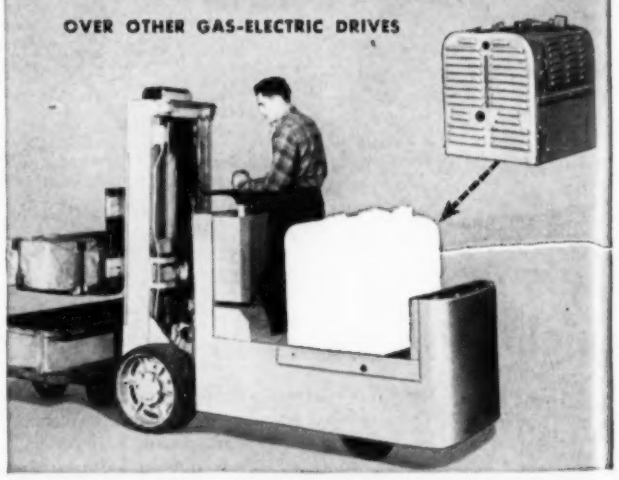
INTERCHANGEABLE READY-POWER OFFERS 4 IMPORTANT ADVANTAGES OVER OTHER GAS-ELECTRIC DRIVES



1 Only Ready-Power Units can be quickly changed. Installation takes just 5 minutes!

2 Only Ready-Power can be shifted from one truck to another.

3 Only with Ready-Power can trucks be kept working with quick change of power units.

4 Ready-Power's low engine speed means longer life, lower maintenance.

Remember . . . Your Truck Is No Better Than Its Power!

CONTINUOUS-DUTY POWER UNITS The READY-POWER Co.
3832 Grand River Ave., Detroit 8, Michigan
Manufacturers of Gas and Diesel Engine-Driven Generators and Air Conditioning Units; Gas and Diesel-Electric Power Units for Industrial Trucks

For more details circle NED-890 L3 on enclosed inquiry slip

FOR UNEXPECTED PROFITS in your shop

ask yourself these questions:

• Could you increase your productivity and profits by fast re-arrangement of machines to meet new production needs with "down time" all but eliminated? • Could you benefit by speed in leveling certain types of machines? • In precision machining operations, such as grinding, do you ever find that rejects are traceable to vibration? • Would you like to forget about lagging machines to the floor to keep them from walking? • Would your worker productivity increase if you could reduce plant noise?

. . . then let us do something about the answers.

The NEW Leveling Barrymount can make profits for you out of problems you may have thought couldn't be solved. It represents a wholly new idea in mounting machinery. What it can mean to you in immediate profits is described in this new bulletin.

Write TODAY for your free copy of "LOOK—NO LAGGING!" to The Barry Corporation, 752 Pleasant Street, Watertown 72, Mass. *Adv.*

▲ For more details circle **NED-891 L3** on enclosed inquiry slip ▲

FASTAX HIGH-SPEED MOTION PICTURE CAMERAS

. . . Solve Difficult Mechanical, Electrical and Physical Problems

Because FASTAX motion picture studies turn the blur of high-speed into clear pictures for visual analysis, engineers can see the reason for part failure, vibration, excessive wear, or noise. Design changes are then made before production has begun. The result is a saving in lives . . . in time . . . in money . . . in company reputation.

LEADING AUTOMOTIVE AND FARM IMPLEMENT MANUFACTURERS HAVE FASTAX LABORATORIES because . . .

FASTAX GIVES YOU MORE . . .

- GREATER SPEED RANGES
- GREATER FLEXIBILITY
- FINER RESULTS THAN ANY OTHER CAMERAS

WRITE WOLLENSAK FOR INFORMATION OR SERVICE

Wollensak OPTICAL COMPANY ROCHESTER, N.Y.

• RAPTAR • RAPAX • FASTAX • MIRROTEL

▲ For more details circle **NED-892 L3** on enclosed inquiry slip ▲

New Processes & Materials

SPRAY BOOTH COATING strips for removal of overspray

Protection for the inner surfaces of spray booths, turntables and stands against accumulations of paint overspray is provided by Spray Booth Shield, a paste - like shielding material. Milky - white in color, it can be applied to any surface by brush, trowel or knife to a thickness of about 1/16-in. It can be covered with paper which is stripped off by hand or scraper when accumulation becomes heavy, or it can be used alone, with both shielding material and paint being removed. Booths can be used immediately after application of the material, offered in 5-gal cans and drums. Made by **Thompson & Co.,** 1010 Allegheny Ave., Oakmont, Pa.

▲ For more details circle **NED-893 L3** on enclosed inquiry slip ▲

STEEL FLOOR TILE applicable over various surfaces

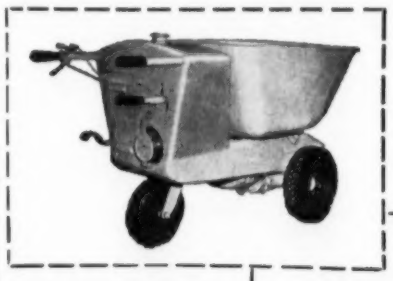
Consisting of steel plate measuring about 1 sq ft, Metile floor tile can be installed over new or old concrete, sound wood bases, wood block or brick. Tile has numerous anchorage points to secure the plate to a grouting concrete bedment to prevent buckling or movement in vertical or horizontal directions. Composition of bedment varies with the surface over which the tile is installed. Flooring withstands wear from heavy truck casters or where steel drums or other items ordinarily damage the surface. In laying, concrete is forced through small surface holes in the tiles so that islands of concrete provide a grip area to preclude slipping. Made by **Flash-Stone Co.,** 3727 Pulaski Ave., Philadelphia 40, Pa.

▲ For more details circle **NED-894 L3** on enclosed inquiry slip ▲

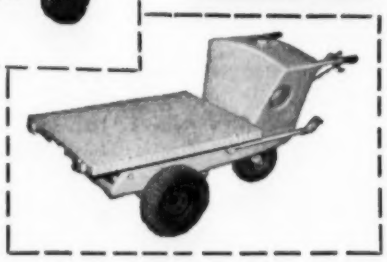
Synthetic Rubbers

Thiokol Chemical Corp.—Information to aid in selection of special purpose elastomers to withstand oils and solvents, effects of aging and extremely low temperatures is found in 4-page illustrated bulletin. Typical properties, uses and compounding of Thiokol synthetic rubbers are described. Various applications are pointed out, as are physical properties.

▲ For more details circle **NED-895 L3** on enclosed inquiry slip ▲



BULK HANDLING WITH The Bell PRIME-MOVER



Bucket and Platform interchangeable in a jiffy. Handle up to ¾ ton load — up grades and down — through narrow aisles and doorways.

MOVE your materials — bulk or packaged — with equipment not limited to specific jobs—consolidate those intermittent handling jobs, outdoors or in confined areas—supplement and relieve your specialized equipment and complete the mechanization of your materials handling.

If you're processing bulk materials—disposing of waste and scrap—using materials in maintenance or construction—shifting heavy maintenance equipment—maintaining grounds—or loading, unloading bulk or packaged goods from cars, toss your problems on the Prime-Mover and get the job done—quickly and economically. Prime-Mover Co., Muscatine, Iowa.

▲ For more details circle **NED-896 L3** on enclosed inquiry slip ▲

TEMCO ELECTRIC FURNACE

assures precision heat treating of vital parts for the nation's armed forces at **RAYTHEON**

In many leading plants, like Raytheon Manufacturing Co. of Waltham, Mass., you'll find TEMCO bench-type electric furnaces speeding production and lowering unit costs. 1600 Series, shown above, is large enough to take a wide variety of work, yet compact and convenient. TEMCO furnaces are made in eight sizes—with either manual or electronic controls. Economical, easy to install and operate. $55 to $507. Write for data and nearest dealer's name.

THERMO ELECTRIC MANUFACTURING CO.
484 Huff St., Dubuque, Iowa

▲ For more details circle **NED-897 L3** on enclosed inquiry slip ▲

Speeds Soldering on Small Joints

New, lightweight iron offers these features for production-line soldering in electronic and communication industries:

- **Thin shank gets tip into places a regular iron can't reach**
- **Lighter weight iron lowers operator fatigue**
- **Ironclad tip needs little maintenance**

FREE BULLETIN gives you complete information. Write for GED-1583 to Sect. 720-85, *General Electric Co., Schenectady 5, N. Y.*

GENERAL ELECTRIC

▲ For more details circle **NED-898 L3** on enclosed inquiry slip ▲

THIS *Free* SAMPLE KIT

Will show you how to:

- **Increase your production**
- **Prevent scoring and seizing**
- **Protect bearing surfaces better**

CMD ANTI-SCORING LUBRICANT

Here is a free sample kit of CMD Anti-Scoring Lubricants, designed for *your* use on *your* machines so that you can see how it will help increase production by preventing costly shutdowns. Also CMD lubricants positively prevent seizing, galling, scoring and are non-corrosive. Any bearing surface is absolutely protected with CMD. Send for your free kit and use CMD on lathe centers, steady rests, cams, taps and in many other applications where positive lubrication is demanded under high pressures. Do it today and see if you don't think CMD is tops!

Use it for
LATHE CENTERS
DIE SET POSTS
MACHINE WAYS
THRUST BEARINGS
CAMS—DIES—TAPS
GRINDING CENTERS
MILLING MACHINES

FREE SAMPLE KIT

Please send, under no obligation to me, Free Sample kit No. 211 containing CMD Lubricants.

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Address _____
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Chicago Manufacturing and Distributing Company
1902 West 46th St., Chicago 9, Illinois

CHICAGO MANUFACTURING & DISTRIBUTING CO.

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Steel SHOP and TOTE *Boxes*

ONLY 79¢ EACH*

*In 5000 lots, F.O.B. Michigan City, Indiana

17½" long x 8" wide x 13" deep
(Inside Dimensions)

Stubborn insistence on "brand new" tote boxes may mean that you are paying for 4 boxes but getting only *one*. Thousands of manufacturers have been using these oil and water-tight steel boxes for years, at a great saving. You, too, can save! Just tell us how many you need. We'll give you the lowest prices.

BARNES and SMITH CORPORATION
6521-C W. State Street • Milwaukee 13, Wis.

For more details circle **NED-903 L3** on enclosed inquiry slip

FLIGHT COMPUTERS to BUSINESS COMPUTERS

with GUARDIAN® *Relays*

THE SWITCH IS ON to Guardian Relays, Steppers, Solenoids and Contactor units to improve the performance of business machines that count and compute. Guardian's No. 1 Solenoid is appropriately the No. 1 choice of leading manufacturers of adding machines. The Guardian Series 595 D. C. Relay is widely used in adding machines and computing devices. Available with open type (up to 4 P.D.T.) construction or *hermetically sealed* to specification. Send b/p for a prompt quotation and specific recommendations.

NO. 1A A.C. SOLENOID

SERIES 595 D.C. RELAY

GUARDIAN ELECTRIC
1626-M W. WALNUT STREET CHICAGO 12, ILLINOIS
A COMPLETE LINE OF RELAYS SERVING AMERICAN INDUSTRY

For more details circle **NED-904 L3** on enclosed inquiry slip

Looking for a Better Conveyor?
Then You Want This Book

If your conveying problem involves cans, bottles, jars, packages, small parts or almost any other small unit, you'll want this new book on Rex TableTop® Chain. The book explains all the advantages of TableTop's simplicity...how it reduces maintenance...speeds production ...helps cut conveying costs.

There are also sections on two other great conveying chains—Rex FlexTop® and Baldwin Rex PlateTop®. Just use the coupon to send for your free copy today.

REX® **Chain Belt** COMPANY OF MILWAUKEE

Chain Belt Company 53-102
4686 W. Greenfield Avenue
Milwaukee 1, Wisconsin
Please send me TableTop Chain Bulletin 53-60.
Name....................................
Company....................*Dept*..............
Address....................................
City...........................*State*..............

For more details circle **NED-905 L3** on enclosed inquiry slip

New Literature & Catalogs

Stock Roller Chain Sprockets

Morse Chain Co. — Prices and specifications of Taper-Lock stock roller chain sprockets are presented in 16-page pocket-size catalog B55-53. Included are horsepower ratings, bushing and sprocket specifications, and roller chain and parts data for ½, ⅝, ¾, 1 and 1¼-in. pitch chain. Roller chain packaged in 5, 10, 50 and 100-ft lengths is price listed also.

For more details circle **NED-906 L3** on enclosed inquiry slip

Pipe Repair Clamps

Morris Coupling & Clamp Co.—Details of methods whereby pipeline leaks of any kind can be permanently repaired in a few seconds are detailed in 6-page folder No. 201 which also gives specifications and prices of single and double pipe repair clamps for ½ to 14-in. diameter pipe.

For more details circle **NED-907 L3** on enclosed inquiry slip

Exhaust Gas Purifier

Oxy-Catalyst Mfg. Co.—Any type of equipment powered by gasoline engines can be operated safely indoors when engine is equipped with the OCM Catalytic Exhaust. This device removes carbon monoxide, fumes and odors from the engine exhaust so that equipment can be operated without hazard to workmen. Details of this unit are given in 4-page illustrated bulletin.

For more details circle **NED-908 L3** on enclosed inquiry slip

Radioactive Reagents

Fisher Scientific Co. — The development, applications and instrumentation of the new micro-curie radioisotopes is the subject of 11-page technical bulletin entitled "Fisher Radioactive Reagents." Latter are budget-priced carbon-14 tagged compounds that require no A.E.C. authorization for use.

For more details circle **NED-909 L3** on enclosed inquiry slip

Cellulose Acetate Facts

Hercules Powder Co.—"Properties and Uses of Cellulose Acetate" is an up-to-date technical guide which covers this material as well as the many new solvents, plasticizers and resins which are used with it. Section on uses includes considerable new data on acetate specialty lacquers, as well as on coatings and finishes.

For more details circle **NED-910 L3** on enclosed inquiry slip

Tabletting Presses

F. J. Stokes Machine Co.—24-page illustrated catalog 801 deals with single punch and rotary tabletting presses which are used for compacting pharmaceuticals, powder metals, plastic preforms, chemicals, grinding wheels and other materials. Complete specifications are given on various machines.

For more details circle **NED-911 L3** on enclosed inquiry slip

Expansion Joints & Flexible Hose

Flexonics Corp. — Basic selection and installation data necessary for the proper application of flexible metal hose and pipeline expansion joints is found in 16-page illustrated catalog. Expansion joint specifications are given for both low and high pressure units. Corrugated and convoluted hose constructions, plus data on fittings, are included.

For more details circle **NED-912 L3** on enclosed inquiry slip

Refrigeration & Heating Supplies

Harry Alter Co.—More than 9000 parts and supplies relating to refrigeration, electric motors, air-conditioning and heating are shown, described, and priced in new parts catalog No. 160.

For more details circle **NED-913 L3** on enclosed inquiry slip

Grating Spectrographs

Jarrell-Ash Co.—Technical information on all standard JAco grating spectrographs is given in 16-page illustrated catalog G2-53. Other sections cover accessory equipment, production of diffraction gratings, suggested laboratory layouts and brief descriptions of complementary instruments.

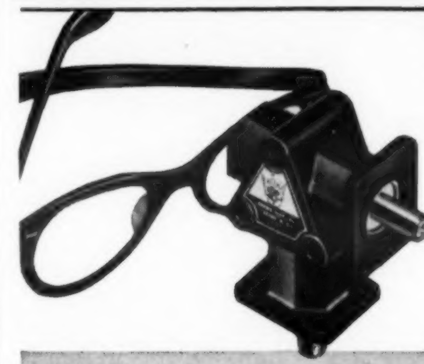
For more details circle **NED-914 L3** on enclosed inquiry slip

Lever Action Clutch

V-Belt Clutch Co.—Designed for high speed gasoline engines, electric motors and other industrial applications, Ball-Lok clutches of the manual or lever action type are described and illustrated in 8-page catalog No. 31 (with price list). Features and specifications of various types and sizes are given.

For more details circle **NED-915 L3** on enclosed inquiry slip

For more details circle **NED-916 L3** on enclosed inquiry slip



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COMPACT, BUT POWERFUL

PRECISION-BUILT, RUGGED MITRE GEAR UNIT

- Hardened "ZEROL" gears
- Matched pairs of gears run in before assembly
- Double shielded ball bearings throughout
- Provision for re-lubrication if necessary
- Choice of four or five mounting faces
- High load capacity
- Long service life
- Compactly designed and rigidly constructed for guaranteed industrial service.
- 1/3 and 1 H.P. at 1800 R.P.M. with 250 and 750 in. lbs. static torque, with two or three shaft extensions.

For additional information consult your local Supply Distributor or write direct.

Crown Gear, Inc.

84 EMERALD STREET KEENE, N. H., U. S. A.

Also Manufactured and Sold Through Distributors in Canada by H&R Arms Co., Ltd., Montreal, P.Q.

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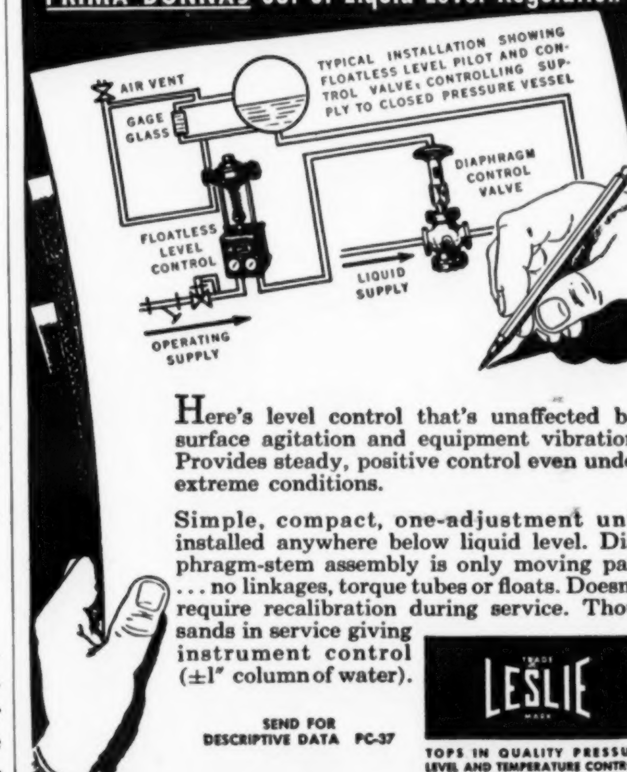
LESLIE *Floatless* Level Control takes the PRIMA DONNAS out of Liquid Level Regulation



Here's level control that's unaffected by surface agitation and equipment vibration. Provides steady, positive control even under extreme conditions.

Simple, compact, one-adjustment unit installed anywhere below liquid level. Diaphragm-stem assembly is only moving part ... no linkages, torque tubes or floats. Doesn't require recalibration during service. Thousands in service giving instrument control (±1" column of water).

SEND FOR DESCRIPTIVE DATA PC-37

LESLIE
TOPS IN QUALITY PRESSURE LEVEL AND TEMPERATURE CONTROLS
Since 1900

LESLIE CO., 227 Grant Ave., Lyndhurst, New Jersey 2740

For more details circle **NED-918 L3** on enclosed inquiry slip

Write for your copy of this new 32-page engineering manual . .

This new illustrated manual is full of information about Mueller Brass Co. brass, bronze and aluminum forgings . . . includes charts, graphs, facts and figures that give complete data about design factors, tolerances and the chemical, mechanical and physical properties of the MBC forging alloys. Get your copy of this valuable handbook today . . . it's yours for the asking.

MUELLER BRASS CO., PORT HURON 27, MICHIGAN
112-A

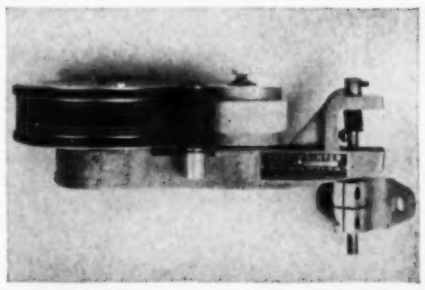
For more details circle NED-919 L3 on enclosed inquiry slip

For more details circle NED-920 L3 on enclosed inquiry slip

CODE, DATE and MARK AUTOMATICALLY on your *CONVEYOR LINE* with the "WHIPPET" MARKER

The "Whippet" marks filled bags, cartons, boxes, rolls, cans etc. with quickly interchangeable rubber type. Inking is through a felt roller that has self-contained reservoir. No installation problems—readily adaptable to your present conveyor system.

The "Whippet" Marker is just one of Industrial's coding and marking machines designed for more efficient marking and movement of materials on production lines. Let us help you with your problems—write today. "FREE" Catalog upon Request.

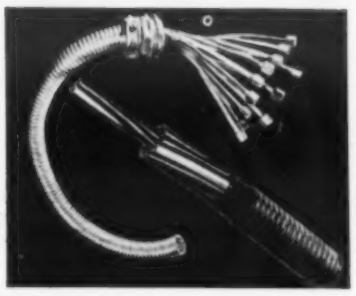


THE INDUSTRIAL MARKING EQUIPMENT COMPANY, INC.
Machines available for munitions marking
454 Baltic Street, Brooklyn 17, N.Y. Dept. N.E.D.
Phone MAin 4-2601

For more details circle NED-921 L3 on enclosed inquiry slip

New Processes & Materials

ARMORED MULTIPLE TUBING for groups of ½-in. and smaller tubes



For use with instruments and process control equipment, Armored Multitube consists of a number of ½-in. and smaller tubes twisted together and protected by a flexible interlocked galvanized steel armor. This arrangement protects individual tubes from injury, and permits bending without distortion. A color identification system is used so that a system can be connected without tracing through each tube. Multitube is available in continuous lengths up to 1000 ft, with from 2 to 19 component tubes in ¼-in. OD copper and aluminum from stock. Polyethylene and other plastics are also available for specific services. Made by **Crescent Insulated Wire & Cable Co.**, Taylor & Lawrence Sts., Trenton, N. J.

For more details circle NED-922 L3 on enclosed inquiry slip

HARD SURFACING METHOD permits "tailor made" deposits to match service requirements

New technique for automatic hard-surfacing makes use of an agglomerated granular flux to supply the alloy content of the deposited metal. Flux H-545 is used where a smooth layer of good abrasion resistance and high impact strength is required. It has a constant hardness of 53-57 Rockwell C. Flux H-550 is used for extremely abrasion resistant deposits with good impact strength. Also magnetic, it has a broad hardness range of 36-62 Rockwell C. This deposit is non-machinable.

Both fluxes can be used with medium to high carbon and mild steel electrodes on any standard automatic welding head or manual Lincolnweld equipment. Deposits can be "tailor-made" by diluting the hardsurfacing flux with mild steel flux to get properties to match service requirements. Made by **Lincoln Electric Co.**, Dept. H, 22801 St. Clair Ave., Cleveland 17, O.

For more details circle NED-923 L3 on enclosed inquiry slip

For more details circle NED-924 L3 on enclosed inquiry slip

For more details circle NED-925 L3 on enclosed inquiry slip

NEW radial spring action fastens better!

SPIROL PIN

Does the job here

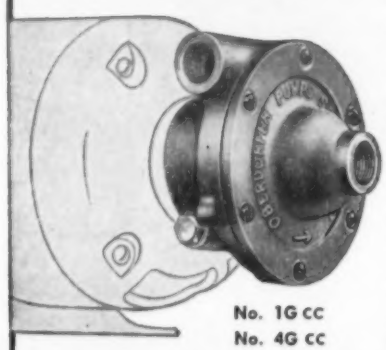
From tiny eyeglass-hinge pivots up to ½" or larger fastenings used in locomotives, the all-around tension of spiral coils gives SPIROL PIN unique fastening properties. When compressed by insertion, SPIROL PINS develop *evenly distributed* radial spring tension — no weak "hinge" lines. This spring action locks SPIROL PIN in place — eliminates close tolerances — allows easy removal and re-use of pin. True radial flexibility permits shock-proof fastening of hard and soft materials — eliminates internal stresses in component parts. SPIROL PINS have chamfered ends for easy insertion.

NEW REDUCED PRICES on all SPIROL pins. Write for new price list and free sample SPIROL pins.

C. E. M. COMPANY
43 SCHOOL STREET • DANIELSON, CONN.

For more details circle NED-926 L3 on enclosed inquiry slip

Close coupled, centrifugal, motor driven
OBERDORFER BRONZE PUMPS



No. 1G CC
No. 4G CC

1G cc is complete motor-pump unit with 1/12 H.P., 3450 RPM, 110 volt, A.C. ball bearing thermal overload motor. Motor frame Nema 42 with end bell machined for pump mounting. Pump has mechanical Rotary face type seal.

4G cc is complete motor-pump unit with 1/3 H.P., 3450 RPM, 110 volt, A.C. thermal overload motor. Motor frame Nema 56 with end bell machined for pump mounting. Pump has mechanical Rotary face type seal.

OVERALL DIMENSIONS—Motor and Pump Unit

Pump No.	Height	Width	Length	Suction	Discharge
1G cc	5"	4¾"	9"	⅜ N.P.T.	⅜ N.P.T.
4G cc	6⅝"	6 5/16"	11¼"	¾ N.P.T.	½ N.P.T.

CAPACITIES—Gal. per min. —3450 RPM-Foot Water Head

Ft. Water	0	5	10	15	20	25	30	35
1G cc	7	6½	5	4	1½	—	—	—
4G cc	23	22	20	18	15	12	8	2

See our catalog in Sweet's PRODUCT DESIGN File

Oberdorfer Foundries, Inc., Ind. Pump Div.
2311 Thompson Rd. Syracuse, N. Y.

For more details circle NED-927 L3 on enclosed inquiry slip

FREE DOWEL PIN BULLETIN
Tells How to Save Assembly Time!

DANLY
DOWEL PINS
- Accurately hardened—will not upset!
- Precision ground to limits of ±.0001"
- Two complete size ranges—standard and oversize
- Tapered lead end—easy to drive

DANLY MACHINE SPECIALTIES, INC.
2100 South Laramie Avenue
Chicago 50, Illinois

Complete Data!
Send For This Free Bulletin Today!

For more details circle NED-928 L3 on enclosed inquiry slip

KLIXON PROTECTORS
Help keep the "heat on" in York-Shipley Boiler Units

Modern in design, compact for space saving, the York-Shipley oil-fired, table-top boiler units provide plenty BTU'S for outstanding home and hot water heating.

York-Shipley engineers specify and use motors with built-in Klixon Protectors to insure dependable, long-lived motor operation.

Here's what Mr. H. Leroy Mohn, project engineer, has to say about Klixon Protection:

"We prefer Klixon built-in motor protection in our oil burner and circulating pump motors because we find they reliably protect motors against unusual load conditions. Our experience with these protectors has been excellent."

You, too, can keep motors in your equipment operating, reduce service calls and repairs by specifying and using Klixon protected motors. The additional cost is low, pays for itself over and over by reducing motor burnouts.

SPENCER THERMOSTAT
Division of Metals & Controls Corporation
1910 FOREST ST., ATTLEBORO, MASS.
KLIXON

For more details circle NED-929 L3 on enclosed inquiry slip

New Literature & Catalogs

Expansion Joints

Flexonics Corp.—Corrugated expansion joints for handling pipeline motion are described in 8-page illustrated bulletin No. 133. Units covered are for both low and high pressure applications, one type being good for handling line pressures to 5500 psi. Proper guiding and anchoring of these installations is also discussed.

For more details circle NED-930 L3 on enclosed inquiry slip

Speed Reducers

Westinghouse Electric Corp. — Complete line of Westinghouse speed reducers is shown in 15-page booklet B-5646. Features, manufacturing techniques and applications are discussed, and standard ratios available for all types are given. Special units, such as right-angle and in-line drive types, are included, along with units for particular industries.

For more details circle NED-931 L3 on enclosed inquiry slip

Prepaint Phosphating

Oakite Products, Inc.—"How to Apply Better Zinc Phosphate Coatings to Steel in Preparation for Painting" is title of 12-page illustrated booklet. The Cryscoat HC compound and application process are described, salt spray test results shown, and the problems involved in securing good paint adhesion explained.

For more details circle NED-932 L3 on enclosed inquiry slip

Socket Screw Inspection

Parker-Kalon Corp.—A behind-the-scenes look at the various steps company takes in maintaining quality-control and inspection in manufacture of P-K socket screws is provided by illustrated folder 481C. Described on back cover is socket screw dimension finder being offered free to designers, engineers and production men.

For more details circle NED-933 L3 on enclosed inquiry slip

Sectional Stock Racks

Brown Engineering Co.—Descriptive folder on sectional arm racks deals with both single and double arm types. It shows how to assemble them and gives dimensions and specifications for five different rack models. Racks will save storage space, yet retain easy access to variety of bars, rods, strip, tubing, pipe, conduit, shafting and other metalworking stock.

For more details circle NED-934 L3 on enclosed inquiry slip

Heavy Duty Centers

Marvel Tool & Machine Co.—Specifications as well as brief descriptions of Marveco centers designed to handle any load from 1 to 200,000 lb form subject matter of 6-page folder. Centers are made to give optimum service on heavy or high speed lathes, grinders, thread mills, thread grinder and thread chasers.

For more details circle NED-935 L3 on enclosed inquiry slip

Precision Products

W. & L. E. Gurley, Industrial Div.—Precision products for science and industry which make use of optics, reticles, circular and linear scales, and resolution and test patterns are pictured in 8-page booklet RD. Equipment and other facilities for precision dividing and figuring are shown as well.

For more details circle NED-936 L3 on enclosed inquiry slip

Threaded Fasteners

Triplex Screw Co.—80-pages of weights and dimensions on complete line of nuts, bolts, screws, Sems, washers, rivets and specials are found in indexed looseleaf catalog 530. Diagrams, illustrations and prices are included.

For more details circle NED-937 L3 on enclosed inquiry slip

Dust Collectors

Torit Mfg. Co.—Both cabinet and cyclone type dust collectors, former in 14 standard models and latter in 10 types, and both ranging up to 5 hp, are detailed in 16-page catalog. Also shown is line of blowers, exhausters and accessories. Illustrations show adaptability to specific problems.

For more details circle NED-938 L3 on enclosed inquiry slip

Jig & Body Fixtures

Smith Engineering & Tool Co.—"Standard Jig & Body Fixtures" is title of a new catalog. Components are available in 7000 sizes. Use can aid in reducing design, tooling and production costs.

For more details circle NED-939 L3 on enclosed inquiry slip

you save 50% in TANK HEATING and COOLING with PLATECOIL
(REPLACE PIPE COILS)

★ You SAVE 50% in tank SPACE
★ You SAVE up to 50% in initial COST
★ You have 50% LESS WEIGHT to handle
★ You SAVE 50% in maintenance LABOR as plates are changed from outside the tank without dumping solution

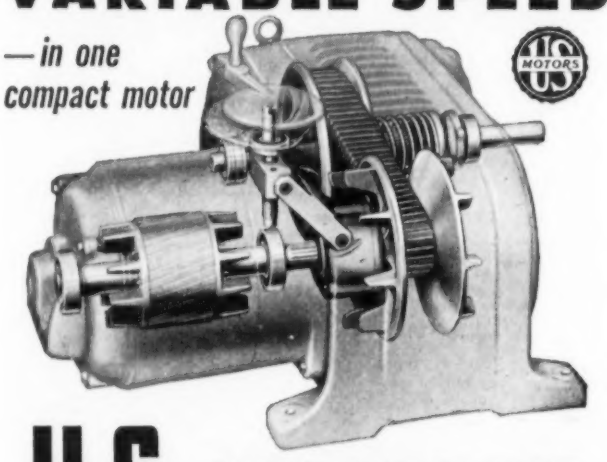
. . . besides all these you get faster heating or cooling. Take advantage of the engineering assistance offered by Kold-Hold to help you with your heat transfer problems.

Send for complete technical manual and descriptive Bulletin No. P57.

PLATECOIL
Division
Tranter Mfg. inc.
LANSING 4, MICHIGAN

For more details circle NED-940 L3 on enclosed inquiry slip

Simplified VARIABLE SPEED
—in one compact motor



U.S. VARIDRIVE
...miracle motor with infinite speeds

Varidrive accomplishes in a single power unit functions that formerly required many separate cumbersome units. You can instantly vary speed for each load condition; increase production; improve operator's ability; adjust speed to overcome chatter, vibration and pulsation.

Write for new 16-page U. S. Varidrive Motor Bulletin.

U.S. ELECTRICAL MOTORS Inc.
Box 2058, Los Angeles 54, Calif. Milford, Conn.

For more details circle NED-941 L3 on enclosed inquiry slip

STOP BELT SLIPPAGE TROUBLES

BELTRACTION weatherproofs, oilproofs and waterproofs all kinds of belts and prolongs belt life.

WITH
BELTRACTION
THE *Liquid* BELT TREATMENT
CERTIFIED BY LEADING INDEPENDENT LABORATORIES
and More Than 110,000 Users

Belt slippage can reduce machine efficiency as much as 70%. Prevent it with BELTRACTION! This *liquid* belt treatment by stopping slippage prevents chattering and misalignment of precision cutting tools—minimizes rejects and costly re-working. Write for interesting folder "Horse Power Where and When You Need It", which gives results of tests of BELTRACTION by United States Testing Company and other prominent independent laboratories.

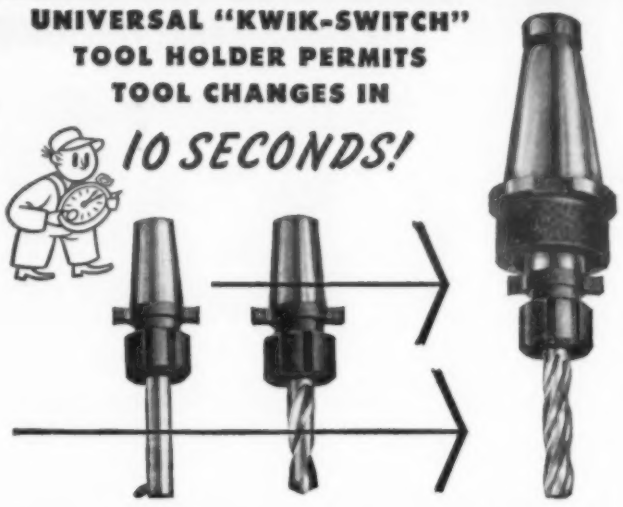
BELTRACTION COMPANY
1817 W. Winona St. Chicago 40, Ill.

FOR ALL TYPES OF BELTS • V-TYPE, FLAT OR ROUND

For more details circle NED-942 L3 on enclosed inquiry slip

UNIVERSAL "KWIK-SWITCH" TOOL HOLDER PERMITS TOOL CHANGES IN

10 SECONDS!



Universal "Kwik-Switch" Tool Holders permit rapid tool changes for operations such as drilling, reaming, and boring on mills, radial drills, while maintaining accuracy and rigidity. Each tool is inserted in its Adapter Chuck and set to proper length and tightened. The Adapter Chuck is then easily locked or unlocked by hand in the Master Chuck by less than a quarter turn. Made of hardened and ground steel, and precision manufactured throughout. Available in straight and taper shanks to fit all machine tools. For complete information, write to the office nearest you — Universal Engineering Sales Co., 1060 Broad St., Newark 2, N. J.; 5035 Sixth Ave., Kenosha, Wis. — or our home office.

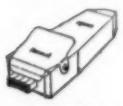
UNIVERSAL ENGINEERING COMPANY
FRANKENMUTH 5, MICHIGAN 177-A

For more details circle NED-943 L3 on enclosed inquiry slip

ACROMARK MEANS "ACCURATE MARKING"

MARK— with

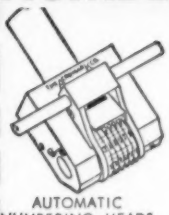
STEEL LETTER & FIGURE STAMPS



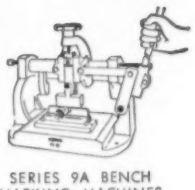
HERCULES HOLDERS & TYPE

NAME-PLATE & PARTS STAMPING MACHINES

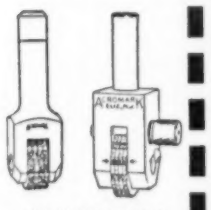
NUMBER— with



AUTOMATIC NUMBERING HEADS

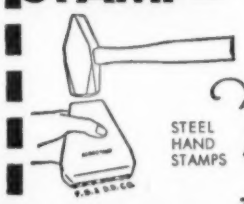


SERIES 9A BENCH MARKING MACHINES



NON-AUTOMATIC NUMBERING MACHINES

STAMP— with



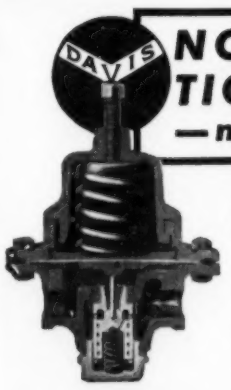
STEEL HAND STAMPS

POWER DRIVEN MARKING MACHINES

WRITE FOR LATEST LITERATURE AND PRICE LISTS.

The ACROMARK Company
7-11 MORRELL ST., ELIZABETH 4, N. J.

For more details circle NED-944 L3 on enclosed inquiry slip



NON-STICKING! TIGHT CLOSING! —no pressure build-up

DAVIS NO. 13
AUTOMATIC PRESSURE REDUCING VALVES

- **FOR MANY USES—** No. 13 regulator designed for reduced flow requirements in heating equipment, vulcanizers, molding presses, steam kettles, etc.
- **EXCLUSIVE DESIGN—** Single seated, tight closing, non-sticking. Large diaphragm, sensitive pressure adjustment. Compact, rugged, self-contained. Orifice type insures high lift, low maintenance.
- **TROUBLE-FREE SERVICE—** Built-in Strainer, finest quality, all internal parts accessible and renewable without disturbing piping.
- **FOR STEAM, AIR OR GAS—** For initial pressures to 250 p.s.i.; reduced pressures, 1 to 100 p.s.i. Sizes from ⅜" to 2". Bronze or semi-steel bodies; bronze or stainless trim. Economical for use on small units. *Write for Bulletin 200.*

Davis DAVIS REGULATOR COMPANY
2531 South Washtenaw • Chicago 8, Illinois

For more details circle NED-945 L3 on enclosed inquiry slip

New Processes & Materials

COATING DRYING PROCESS
drying time is 2 to 20 seconds

Drying of protective and decorative coatings of inks, paints and varnishes can be reduced from as long as 24 hours to 2 to 20 seconds by the Chem-Dry process. Developed by Armour Research Foundation of Illinois Institute of Technology, and now available to industry, the process requires engineering and production techniques especially designed for each application. Coatings of drying oils and resins are dried without the use of heat by a chemical reaction between the applied coatings and sulphur dichloride vapor.

Coated material from printing, roller coating, brushing, spraying or dipping operations is conveyed into a chamber through which a mixture of the vapor and air is circulated. Machine doing the work is built so that vapors adhering to the material are removed and all air exhausted from the system is scrubbed. Process is applicable to metal, wood, glass, graphic arts and fabric industries. Details available from **Meyercord Co.,** Dept. NE8, 5323 W. Lake St., Chicago 44, Ill.

For more details circle NED-946 L3 on enclosed inquiry slip

BRIGHT COPPER PLATING
process adapts to large, small jobs

Fast, easy to control, economical and readily adaptable for both large scale and average job shop production are characteristics reported for recently developed bright copper plating process. Method is 98 per cent efficient, requires no buffing and adapts to existing plating equipment. Speed of deposition and throwing power are high. Brightness is achieved over a range from zero to 80 amp per square foot. Ductile deposits and low copper concentrations are featured. Periodic reverse or intermittent current can also be applied. Developed by **Smoothex, Inc.,** 10705 Briggs Rd., Cleveland 11, O.

For more details circle NED-947 L3 on enclosed inquiry slip

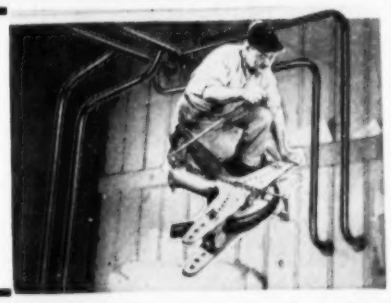
How Rough is Rough?

Micrometrical Mfg. Co.—"How to Win Arguments on Surface Roughness" is an illustrated 4-page bulletin (LT85) which presents basic reasons why production people often argue and disagree on how rough a given surface is. It tells how to put an end to such arguments and why it pays to do so.

For more details circle NED-948 L3 on enclosed inquiry slip

TAL PORTABLE BENDERS — **Complete ALL Piping Jobs FASTER**

SAVE ON
- Number of Fittings
- Elbows & Couplings
- Cutting, Threading
- Overall Costs



Install pipe & conduit *faster* at *lower cost* by reducing up to 80% the number of fittings or elbows and couplings otherwise needed. Save on cutting and threading. You can with a Tal, because Tal Portable Benders make any degree bend up to 180° in a SINGLE OPERATION WITHOUT SHIFTING THE PIPE.

No guesswork for offsets, long sweeps or any other bends. No experience necessary to make accurate, wrinkle-free bends right on the job. *No spoilage.* Bend indicator assures identical repeat bends without measuring. Learn today how you can earn more money and handle more jobs with a Tal bender.

COMPLETE LINE OF BENDERS
For pipe up to 8 inch.
For copper and thinwall tubing.
6 Way Hickeys—lifetime guarantee.

WRITE FOR THIS FREE BULLETIN.

Tal Bender, Inc. Dept. 4 Milwaukee 2, Wis.

For more details circle NED-949 L3 on enclosed inquiry slip

Supplementary Heat

Hy-Lo Salamander — the ideal all purpose heater to keep men and equipment working. Produces up to 140,000 BTU per hour — uses any good grade fuel oil — one filling lasts 10 to 20 hours burning ½ to 1 gallon per hour. This low cost all purpose heater is the answer for emergency or permanent space heating. No other portable heater produces so much heat at so little cost.

Nationally Used

Distributors in all principal cities — write or wire for nearest distributor.

HY-LO *Oil-Burning Salamander*

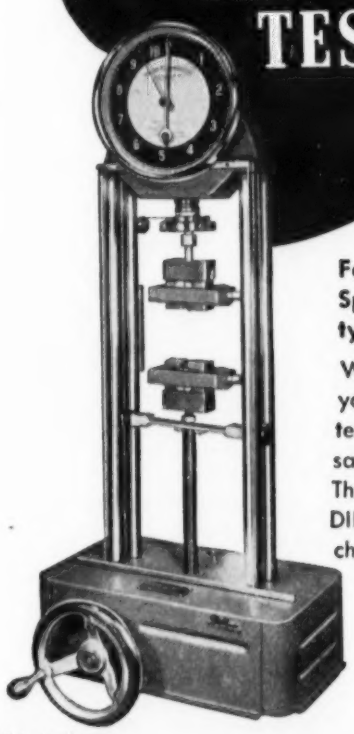
SCHEU PRODUCTS COMPANY
UPLAND, CALIF. WAREHOUSE: CHICAGO

For more details circle NED-950 L3 on enclosed inquiry slip

Guess Work Can Cost You Money!

Get accurate engineering data quickly with a

DILLON Universal TESTER



Motorized or hand operated. Portable.

For Flat, Round or Special Shapes in all types of materials . . .

With a DILLON TESTER you can do all your own testing in your own plant; saving time and money. There are seven different DILLON gauges, all interchangeable to handle materials with tensile strength as low as .25 lbs. or as high as 125,000 lbs. P.S.I.

DILLON UNIVERSAL TESTERS are compact, ruggedly built, accurate instruments. They are fast and easy to operate—even by untrained help.

DILLON TESTERS are used throughout the world by modern industry because they are economical and dependable, and built to last a lifetime.

Each DILLON TESTER is individually calibrated with an elastic proving ring. These rings are certified by the United States Bureau of Standards and are accurate to within 2/10 of 1%. In actual calibration, the ring is placed in direct series with the Dynamometer gauge. Stress curves are made by highly experienced technicians. Every instrument is individually checked.

FREE! Valuable Tensile Strength Computer and profusely illustrated bulletin. Call, write or wire TODAY.

Precision Instruments for Precision Testing

W. C. DILLON & CO., Inc.
14620NE Keswick St., Van Nuys, California (Suburb of Los Angeles)

For more details circle NED-951 L3 on enclosed inquiry slip

Small precision metal parts... Torrington makes them better, and for less!

FREE CATALOG — shows the great variety of small parts we can produce inexpensively and promptly. Send for copy today!

If your product uses small precision metal parts . . . pivots, pins, dowels, rollers, mandrels, needles, punches, etc. . . . send us your blueprints for a prompt quotation.

As a leading contract fabricator, TORRINGTON is equipped with the special machinery to produce in any quantity for quick delivery at low prices.

THE TORRINGTON COMPANY
Specialties Division
420 Field Street • Torrington, Conn.

Makers of
TORRINGTON NEEDLE BEARINGS

For more details circle NED-953 L3 on enclosed inquiry slip

For more details circle NED-954 L3 on enclosed inquiry slip

KEEP LOOSE LEAF RECORDS IN SMEAD BINDER COVERS

FOR PRICE SHEETS
PROFESSIONAL
PRESENTATIONS

Smead Pressboard Covers are a convenient method of binding your specifications, price lists, catalog sheets, reports, inventory sheets and all loose leaf papers. Prong fasteners in sturdy cloth bound flanges permit flexible capacity and orderly arrangement. Embossed panel on cover for printing or stamping. Made of Genuine Pressboard in 19 sizes—colors: red, black, gray, green and blue. Ask for Smead Covers at your stationer or write for **free sample.**

SMEAD MFG. CO., INC. • HASTINGS, MINN.
Send me a free sample of your Pressboard Binder Cover.
NAME
TITLE FIRM
ADDRESS
CITY STATE

For more details circle NED-955 L3 on enclosed inquiry slip

New Literature & Catalogs

Air & Hydraulic Valves

C. B. Hunt & Son, Inc.—Air and hydraulic valves including both manually operated and automatic types are shown in the 12 illustrated pages of bulletin 531. Lever, solenoid, diaphragm and cam types are included in this Quick-As-Wink line, which has models available for services up to 5000 psi.

For more details circle NED-956 L3 on enclosed inquiry slip

Remotely Operated Valves

Fluid Controls, Inc.—Remotely operated valves, subject of series of data sheets, are designed for use where placement of a relief valve in a normally accessible location or near other machine tools is impractical. Made with provision for connecting one or more external pilot valves, they have their use, operation and construction outlined.

For more details circle NED-957 L3 on enclosed inquiry slip

Cast Alloy Cutting Tools

Vascoloy-Ramet Corp.—Introduced in 24-page illustrated catalog VR-451 is Tantung 144, newest member of the Tantung family of tungsten, chromium and cobalt cast alloys. This and other grades are made into solid tool bits, cut-off blades and tipped tools and are subject of catalog. Technical data are included.

For more details circle NED-958 L3 on enclosed inquiry slip

Knife Grinding Techniques

All phases of the care and maintenance of knives with particular emphasis on the selection and proper operation of knife grinding machines are covered in 67-page illustrated "Knife Grinding Manual." Though prepared as a guide for the operation of Hydro-Travel knife grinders, book contains invaluable data for anyone using knives or cutter heads. Price is $1.50. Write to Dependable Machine Co., 200 High Point Rd., Greensboro, N. C.

For more details circle NED-959 L3 on enclosed inquiry slip

Multistage Centrifugal Pumps

Pennsylvania Pump & Compressor Co.—Troubles from axial thrust are prevented by the design of heavy duty multistage centrifugal pumps described in 12-page illustrated bulletin 242. Thrustfree models with five, six and seven stages are covered. Specifications and general data are given.

For more details circle NED-960 L3 on enclosed inquiry slip

Steel Tubing Brochure

General Motors Corp., Rochester Products Div.—Design, production and engineering information on small diameter steel tubing is presented in 12-page brochure. Complete tabular size, mechanical properties and physical test data are provided for tubing between 1/8 and 5/8-in. OD. Fabrication coverage includes forming, finishing, cutting and machining, and jointing.

For more details circle NED-961 L3 on enclosed inquiry slip

Point-Contact Transistors

Texas Instruments Inc.—4-page technical bulletin describes and illustrates various point-contact transistors. In addition to giving electrical data and mechanical specifications for various units, together with hints on installation and maintenance, bulletin provides two pages of theory and application of this type of unit, with formulas, equivalent circuits and characteristic curves.

For more details circle NED-962 L3 on enclosed inquiry slip

Metallic Tubing Seal Rings

D.S.D. Mfg. Co.—Toruseal, precision seamless seal made of 18-8 stainless steel, is adaptable for temperature extremes ranging from −150° up to 1000° F. They can be used on service involving many types of corrosive chemicals in production and processing systems. Details, available sizes and other data on these round and shaped seal rings are contained in 14 data sheets.

For more details circle NED-963 L3 on enclosed inquiry slip

Environmental Test Cabinets

Refrigeration Systems, Inc., Hudson Bay Div.—Illustrated 4-page bulletin on line of environmental test cabinets explains features of units for creating humidities from 20 to 95 per cent, simulating altitudes up to 100,000 ft, developing temperatures from −150° to 400° F, and for simulation of all stratospheric and atmospheric conditions.

For more details circle NED-964 L3 on enclosed inquiry slip

PREVENT THERMOMETER FOGGING

No matter how long you dunk it, you can't cloud the accuracy of a Rochester dial thermometer.

THIS SUBMERSIBLE QUALITY is important to you. It means fast, easy temperature readings . . . without any danger of a foggy crystal causing inaccuracy. Rochester dial thermometers are assembled and hermetically sealed in a special humidity-controlled "dry" room. This eliminates any possibility of condensation inside the thermometer.

ALL STAINLESS STEEL CONSTRUCTION—All outer parts (except crystal) of Rochester dial thermometers are stainless steel. What's more, the case, stem and nut are fused into a single *corrosion-resistant* unit by an exclusive Rochester welding process.

EXCLUSIVE OUTSIDE RECALIBRATION—Rochester makes the *only* industrial thermometer that can be recalibrated from outside the case. If an extremely hard blow should knock it out of adjustment, you can have it back on the job in less than a minute . . . without taking the thermometer apart or breaking the hermetic seal.

You can order Rochester thermometers from one of our specialized instrument representatives listed in Sweet's Catalog. Or write direct for full details. Rochester Manufacturing Company, Inc. 114 Rockwood St. Rochester 10, N. Y.

MILLIONS of Rochester Dial Thermometers are now delivering dependable service

Rochester
MANUFACTURING COMPANY, INC.
DIAL THERMOMETERS GAUGES AMMETERS

For more details circle NED-965 L3 on enclosed inquiry slip

30,000TH AUTOMATIC TRANSPORTER COMES OFF LINE

John A. Baldinger, General Manager of Automatic and H. J. Framhein, Chief Engineer in charge of Transporters, see 30,000th Transporter come off line.

American Industry uses more Automatic TRANSPORTERS than any other operator-led electric truck. And, no wonder, for...in addition to trouble-free, superior performance and lower maintenance costs...to our knowledge...no Automatic TRANSPORTER has ever worn out!

For full details write: Automatic
61 W. 87th St., Dept. W-3, Chicago 20, Ill.
WORLD'S LARGEST EXCLUSIVE BUILDER OF ELECTRIC-DRIVEN INDUSTRIAL TRUCKS

For more details circle NED-966 L3 on enclosed inquiry slip

SpeedMaster portable electric drills are designed and built to stand up under continuous operation at full capacity. They have sealed ball bearings throughout; have broad face gears cut on centers, and every standard, industrial quality feature. They also have the special SpeedMaster advantages of: extra power; cast-in frame supports, bracing, cooling system, etc. —nothing to loosen or rattle; as well as SpeedWay's lighter weight, handiness and in-line thrust that makes straight drilling natural.

SPEEDWAY STANDARD DUTY DRILLS

These handy, economical drills are the logical drills for maintenance, construction, installers and service men. Cast-in aluminum construction. More power per pound than ordinary drills. They will give lifetime service.

Write for Catalog

SpeedWay MANUFACTURING CO.
1892 South 52nd Ave. Cicero 50, Illinois

For more details circle NED-967 L3 on enclosed inquiry slip

WRITE YOUR OWN TICKET FOR
Quality Wire!

SPECIFY SENECA
FOR WIDE RANGE OF USES

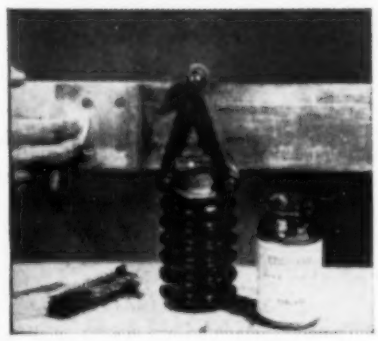
- Aircraft
- Armature
- Cable
- Car Seal
- Cotter Pin
- Curtain Spring
- Flexible Shaft
- Glass Netting
- Hair Pin
- Lock Spring
- Piston Ring
- Plow Steel
- Ring Traveler
- Rope
- Spark Coil Core
- Spring
- Stapling
- Stitching
- Weaving

Whatever your needs in wire . . . specify SENECA for *top quality* and *uniformity!* High or low carbon steel wire . . . aluminum . . . bronze. Sizes No. 40 W & M (.007) and larger . . . round, half round, oval, square, flat, straightened and cut. Finishes—bright, soft annealed, coppered, liquor, tinned, bright galvanized, oil tempered, enameled. Write about your requirements.

SENECA WIRE & MANUFACTURING COMPANY, FOSTORIA, OHIO
Representatives in practically All Principal Cities

For more details circle NED-968 L3 on enclosed inquiry slip

GENUINE — SIMPLE
SILVER PLATING
"ON THE JOB" WITH POWDER



Purposes of silver plating need not be explained to you of the electrical field.

The biggest problems of silver plating are its convenience, economy and thoroughness. "Cool-Amp" silver plating POWDER is the answer to these problems.

"Cool-Amp" deposits a genuine coat of silver that will not peel off and provides cool maximum conductivity for copper, brass or bronze contacts. It has been proven equal to any electroplating for bolted and stationary contacts and is far more adaptable . . . always ready for use.

"Cool-Amp" POWDER offers a quick and easy solution to heating due to oxidation, improves the continuity of electrical service and reduces maintenance.

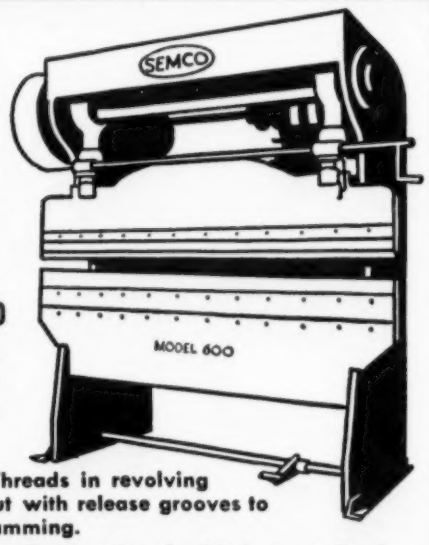
"Cool-Amp" is completely harmless to the user and is simple to apply. It can be used by any number of people at the same time. ON THE JOB, in underground vaults and sub stations and in hard-to-get-at places. The only equipment needed is a sharp steel wire brush or abrasive cloth, clean rag and water.

Dampen a rag, dip in "Cool-Amp" and rub on surface. One pound will silver plate approximately 6000 square inches.

$13.50 PER POUND SHIPPED PRE-PAID
WRITE FOR FREE SAMPLE AND QUANTITY QUOTATIONS
GENUINE • SIMPLE SILVER PLATING
COOL-AMP
Dept. ED 8603 S. W. 17th Avenue • Portland 19, Oregon

For more details circle NED-969 L3 on enclosed inquiry slip

NEW PRESS BRAKE
IN TWO SIZES
6 FT. and 8 FT.
•
LOW PRICED
•
BIG PRESS FEATURES



- Buttress Threads in revolving bronze nut with release grooves to prevent jamming.
- One Piece Construction (welded, normalized, machined in one piece).
- Ball and Roller Bearings throughout.
- Fine adjustment.

Made by the makers of famous SEMCO "34 YEAR" BRAKE DIES.

Write for NEW color folder and prices of PRESS BRAKES and 26 standard BRAKE DIE designs. Send die specifications for estimate.

SEMCO
SERVICE MACHINE CO., INC.
202 MILLER STREET, ELIZABETH 4, N. J.

For more details circle NED-970 L3 on enclosed inquiry slip

New Processes & Materials

MAGNETIC LAMINATIONS
flat type made in any shape

Magnetic laminations made of nickel-iron and electrical silicon steels are made to order in burr-free flat laminations of any shape. They are fabricated in progressive tungsten-carbide and high-carbon high-chromium dies. Company can meet customer specifications for almost any magnetic lamination performance, and it can provide engineering design service. Made by **Magnetics, Inc.**, Dept. NED-3, Butler, Pa.

For more details circle NED-971 L3 on enclosed inquiry slip

WATER-REDUCIBLE ENAMEL
won't burn at normal temperatures

Designed for application on metals, water-reducible enamel will not burn at normal room or operating temperatures when in the liquid state, and even after drying, has limited combustibility. It dries with a hard gloss and impact-resistant finish. When dry it is not water-soluble and has good oil resistance. It can be applied by spray or dip. Enamel requires air-drying for 20 minute and subsequent baking for approximately 18 minutes at approximately 300° F. At present, enamel is available only in black, though other colors can be produced and will be made available depending on demand. Parts already coated with the enamel can be machined and fabricated without damage to either finish or tools. Made by **Sherwin-Williams Co.**, General Industrial Div., Dept. E, 101 Prospect Ave. N. W., Cleveland 1, O.

For more details circle NED-972 L3 on enclosed inquiry slip

RESIN ADHESIVE
bonds well to metal, glass

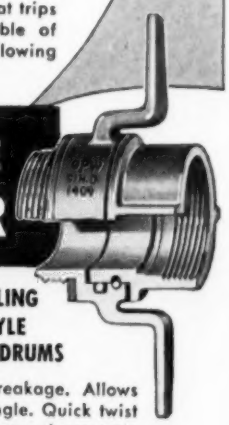
Consisting of adhesive and catalyst, Adweld W-788 epoxy resin bonds well to metals and glass after curing, and resists temperatures over a range from −40 to 500° F on a sustained and up to 750° F on a nonsustained basis. Curing time varies up to 48 hours at room temperature, though this can be reduced to as little as 10 minutes if heat is used to accelerate the process. Bond is made by a combined chemical and capillary action. Bond strengths exceeding 2000 psi shear have been reached on certain types of joints. Adhesive is available in various quantity packagings, ranging from 2-oz jars to 55-gallon drums. Made by **Miracle Adhesives Corp.**, Dept. W-799, 214 E. 53rd St., New York 22, N. Y.

For more details circle NED-973 L3 on enclosed inquiry slip

OPW AUTOMATIC BARREL FILLER
QUICK FILL . . . NO OVERFLOW

Complete automatic shut-off at any point of adjustment. Controlled fill level. Liquid actuates float that trips automatic mechanism. Capable of handling light or heavy flowing liquid even to gas tar.

OPW MOLYGATE DRUM COUPLER



FOR QUICK COUPLING OF MOLASSES STYLE GATE VALVES TO DRUMS

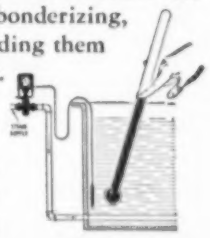
Saves time and breakage. Allows discharge at any angle. Quick twist disconnects. Just screw molasses gate valve or faucet into Molygate Coupler. Eliminates wrenching, pounding and stripped threads.

OPW CORPORATION
2735 Colerain Ave. Cincinnati 25, Ohio

For more details circle NED-974 L3 on enclosed inquiry slip

It's NEW!

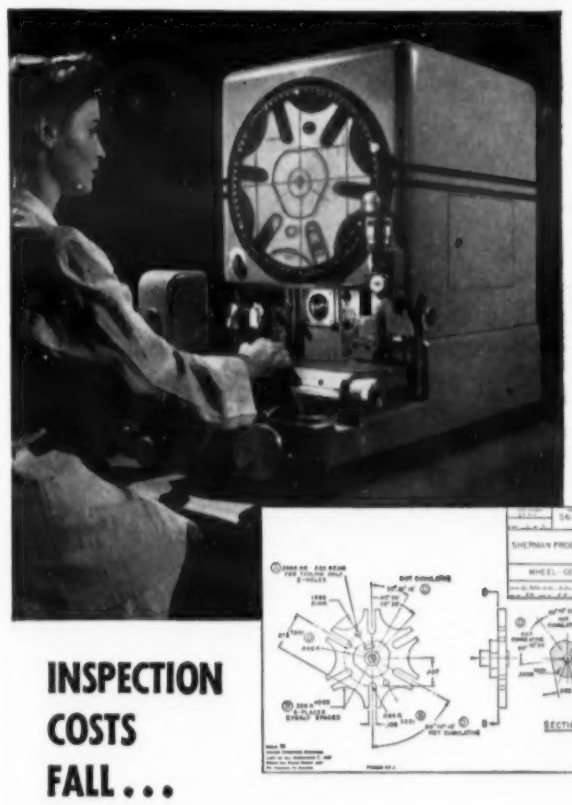
Saves LABOR—Will help you get the most effective use from solutions in plating, anodizing, bonderizing, pickling, cleaning and rinsing by holding them at the right temperature automatically.



Helps Eliminate Rejects. Saves steam by preventing OVER-heating. Dependable control often repays its cost 3 to 6 times a year. *Write for Bulletin 330.* (b32)

THE POWERS REGULATOR CO., SKOKIE, ILL.
Offices in over 50 Cities, see your Phone Book • Established in 1891

For more details circle NED-975 L3 on enclosed inquiry slip



INSPECTION COSTS FALL . . .

when surface features and profiles are checked simultaneously

YOU may be missing a chance to lower inspection costs, speed the work, if you're overlooking the surface illumination feature of the Kodak Contour Projector.

Take the Geneva wheel shown here. By optical gaging, 47 dimensions are checked to tolerances of .001" in *less than 60 seconds,* using a single chart-gage and a simple staging fixture. Conventional shadow projection is used to check 36 of these. But only through surface projection can the 11 dimensions of the hub, including five angles and three radii, be checked simultaneously. A flick of a switch and the unique, self-contained surface illuminator makes checking surface details as easy as measuring shadow profile.

The inherent speed and accuracy of inspection and measurement on Kodak Contour Projectors are lowering inspection costs on all sorts of parts, simple and complex, large and small. The field representative in your area will be glad to show you how optical gaging can work for you. To get in touch with him, or for a copy of a booklet, "Kodak Contour Projector," write to:

Special Products Sales Division
EASTMAN KODAK COMPANY, Rochester 4, N. Y.

the KODAK CONTOUR PROJECTOR

Optical Gaging

A new sound movie, Optical Gaging, shows how to simplify complex inspection problems. We'll tell you how to get it for a showing.

Kodak TRADE-MARK

For more details circle NED-976 L3 on enclosed inquiry slip

Easy to use . . . Easy to clean
. . . Easy to service

DERBY SEALER
MODEL 32 GUMMED TAPE DISPENSER
For Shipping Room and Production Line Packaging

• Rugged simplicity aptly describes the Model 32. Derby's exclusive, one-piece solid casting eliminates parts and provides added rigidity. What's more, the Model 32 is easy to clean, even during the hot summer months when machines tend to "gum-up."

• The Derby Model 32 accommodates any tape from 1" to 3" wide. Delivers from 4 inches to 34 inches of tape at one stroke.

• Derby's exclusive "moisture-control" system maintains a maximum high water level in the tank to assure a constant supply of water to the brush, no matter how fast tape is dispensed.

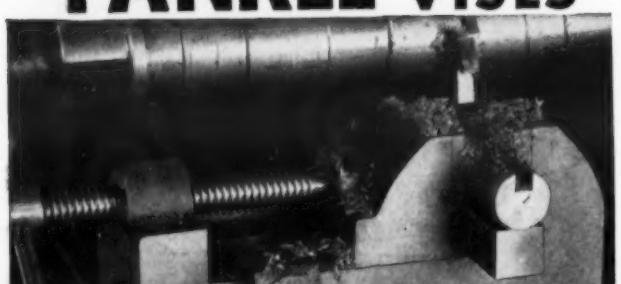
• Also available is the Model 32-T with tool steel shear-type blades for cutting reinforced strapping tapes. Blades have two cutting edges to double their useful life before resharpening.

For further information, write Dept. NED

DERBY SEALERS, INC.
Derby, Connecticut

▲ For more details circle NED-977 L3 on enclosed inquiry slip ▲

"YANKEE" VISES



for accurate, work holding
START-TO-FINISH

Every operation is lined up square and true in a "Yankee" Vise. Carefully machined . . . top, bottom, sides and front end to give accurate alignment in any position. Easily made into jig. V-grooved hardened steel block furnished with each "Yankee" Vise. Four sizes . . . 1½", 2", 2¾" and 4" jaw widths. Write for "Yankee" Tool Book.

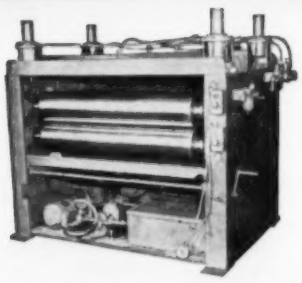
YANKEE TOOLS NOW PART OF
STANLEY
THE TOOL BOX OF THE WORLD

NORTH BROS. MFG. CO.
Philadelphia 33, Pa.

▲ For more details circle NED-978 L3 on enclosed inquiry slip ▲

UNION AUTOMATIC COMPOUND SPREADERS

SAVE *8 WAYS



1 "Die life increased 75%."
2 "Production increased 20%."
3 "Compound saving of 16%."
4 "Rejects reduced 10%."
5 "One helper eliminated."
6 "Paid for itself in 54 days."
7 "Able to use salvage stock for some operations."
8 "25,000 more pieces before changing dies."

MODELS TO FIT ANY STOCK UP TO 96" WIDTH

Union is the foremost designer and manufacturer of roller coating machines for application of drawing or stamping compounds and protective coatings.

Models may be equipped with hardened steel, or with neoprene-covered rolls—also with heated or cooled rolls—to meet your individual requirements.

*The above claims are based on actual statements by users, both large and small—a number of whom have ordered a second and third machine.
Complete data and agent's name on request. Union will design and/or manufacture coating machines to meet your specific requirements.

UNION TOOL CORP.
318 E. MARKET ST., WARSAW, IND., U.S.A.

USERS SAY UNION CUTS COSTS, SPEEDS PRODUCTION

▲ For more details circle NED-979 L3 on enclosed inquiry slip ▲

New Literature & Catalogs

Materials Handling Products

Elizabeth Iron Works, Inc.—Divided into three sections, 6-page folder on line of all-steel materials handling products shows man and truck ramps of 2000, 4000 and 15,000 capacity; offers instructions for determining span of gap and height differential between car floor and top of platform; and also illustrates pallet stacker units.

▲ For more details circle NED-980 L3 on enclosed inquiry slip ▲

Metal Processing Chemicals

Klem Chemicals, Inc.—To aid metal processors and finishers in selecting correct chemicals for various operations, 12-page catalog lists 33 standard Klem products and contains comprehensive application chart for surface preparation of ferrous and nonferrous metals. Lab facilities for compounding special chemicals have also been described.

▲ For more details circle NED-981 L3 on enclosed inquiry slip ▲

Electronic Parts

Radio Shack Corp.—224-page illustrated electronic parts buyer's guide has a rotogravure section on high fidelity music systems. Among the 30,000 products covered are transistors, germanium diodes, antennas, converters, test equipment, printed circuit components, radiation detection apparatus, tubes, transformers and loudspeakers.

▲ For more details circle NED-982 L3 on enclosed inquiry slip ▲

Metal Cutting Saws

Peerless Machine Co.—Made with four-sided saw frame guide and arch, the Hydra-Cut series of hydraulic metal cutting saws is described and illustrated in bulletin HC-50. Three sizes are made with capacities of 7 x 7 in., 11 x 11 in. and 14 x 14 in. Many design details are shown and specifications are given. Automatic bar feed conveyor accessory is described.

▲ For more details circle NED-983 L3 on enclosed inquiry slip ▲

Terminals for Hermetic Sealing

Stupakoff Ceramic & Mfg. Co. —Kovar alloy-glass terminals for hermetic sealing are described in illustrated catalog 453 of 36 pages. Permanently hermetic, they are made in many types. Engineering information aids in designing special seals. Complete specifications of machines are given.

▲ For more details circle NED-984 L3 on enclosed inquiry slip ▲

Dry Panel Filters

Dollinger Corp.—Specifications, engineering and performance data covering dry type panel filters for removal of airborne impurities are content of 8-page illustrated bulletin 600. Filters are made in 2, 4 and 8-in. thicknesses, are rated at 440 to 900 cfm and have active filtering areas of 11 to 30 sq ft for ventilation and air conditioning systems. Various media types are described .

▲ For more details circle NED-985 L3 on enclosed inquiry slip ▲

Conveyor Trolley Wheel Lubricator

Stewart-Warner Corp., Alemite Div.—Conveyor trolley wheels, chains, drives, carriers and rollers—the entire conveyor line—can be lubricated automatically. Conveyor trolley wheel lubricator; Accumeter centralized lubrication for main drives and motors; and Oil Mist for chains, pendants and other conveyor parts comprise the packaged system. It is described in 6-page illustrated folder 22-225 (rev).

▲ For more details circle NED-986 L3 on enclosed inquiry slip ▲

Industrial Steam Traps

W. H. Nicholson & Co.—Bronze, Monel and stainless steel bellows are included in line of industrial steam traps detailed in illustrated bulletin 853 of 12 pages. They are made with bronze, semisteel and cast steel bodies in sizes from ¼ to 2 in. for all pressures from vacuum to 300 psi. Included are piping diagrams, capacity tables, typical applications and many other data.

▲ For more details circle NED-987 L3 on enclosed inquiry slip ▲

Electric Fork Truck

Elwell-Parker Electric Co.—Details of 2000-lb capacity Cargo Scout electric powered fork truck for handling loads in confined areas at maximum speed are found in 4-page brochure. Made with short wheelbase, it has 360-degree steering for maneuvering in narrow aisles and inside truck trailers and box cars. Illustrations and engineering drawings show applications and features.

▲ For more details circle NED-988 L3 on enclosed inquiry slip ▲

New Truck-loading . . . Batch Type

Despatch CHEMICAL DRYING OVEN

• For drying chemicals loaded in pans
• Continuous exhaust of recirculated air
• Complete removal of explosive volatile
• Available for gas, electric or steam
• Optional equipment includes loading truck, extra shelves, timed exhaust, special controls and larger capacities

See it on Display at Booth 140
24th CHEMICAL EXPOSITION

Wherever there are large batches of chemicals for finish-baking, curing, aging, dehydrating or preheating—the Despatch No. V-39 is the answer. Big pay load capacity. Takes a truck loaded with a dozen or more pans 48" long, 34" wide on 4" centers. Specially arranged horizontal ducts provide a uniform, high volume blast of air over and under each pan for thorough drying. The No. 1 time control exhaust system controls the air intake on the oven so that there is 500 CFM exhaust at 500°F with the air intake wide open, and 150 CFM exhaust at 500°F.—after the time control system has actuated shutting off the air intake. Overall size 68"x8'8".

DESPATCH OVEN CO. Established in 1902
325 Despatch Building
Minneapolis 14, Minnesota

▲ For more details circle NED-989 L3 on enclosed inquiry slip ▲

Light where you need it—and in a jiffy

LUFKIN

MITI-MITE Magnetic Base
Portable "Handi-Lites"

Above, below, inside, outside — on tools, machinery, and work — the Handi-Lite has hundreds of uses in every shop. Permanent magnetic base attaches instantly to any ferrous surface, round or flat. Double swivel arms and reflector spot the light exactly where you need it.

Where do you need light? A Handi-Lite will provide it there and in dozens of other spots in a jiffy.

Ask your distributor for a demonstration or write today to Dept. NED for free illustrated booklet.

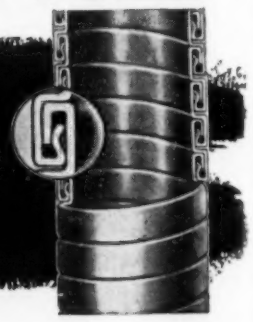
STANDARD No. 200 Up to 40 Watt Bulbs
HEAVY DUTY No. 250 Up to 100 Watt Bulbs.

BUY LUFKIN
TAPES • RULES • PRECISION TOOLS
FROM YOUR DISTRIBUTOR
THE LUFKIN RULE CO., SAGINAW, MICHIGAN
132-138 Lafayette St., New York City • Barrie, Ontario

▲ For more details circle NED-990 L3 on enclosed inquiry slip ▲

CMH REX-TUBE

FLEXIBLE METAL HOSE of 1001 uses . . .



. . . for the practical handling of saturated steam, non-searching liquids or gases—substances such as tar, asphalt and petroleum products. It is also widely used for ducting, tubing and conduits. Rex-Tube absorbs vibration—expansion and contraction—misalignment. It combines the flexibility of hose with the durability of metal. Available in a wide range of sizes with fittings for your needs. Working pressures to 750 psi and temperatures to 1200° F. Write today for more information.

CMH
CHICAGO METAL HOSE
DIV. FLEXONICS CORPORATION
1343 S. Third Avenue, Maywood, Illinois
Manufacturers of flexible metal hose and conduit, expansion joints, metallic bellows and assemblies of these components.
In Canada: Flexonics Corporation of Canada, Ltd., Brampton, Ontario

▲ For more details circle NED-991 L3 on enclosed inquiry slip ▲

AN INDISPENSABLE FIRST-AID INSTRUMENT

G-S EYE SWEEP

Double Purpose

MAGNET AND LOOP

For removing metallic particles, dirt, chips, any foreign matter from the eye. **$2.50**

Magnetic tip easily picks up the smallest piece of iron or steel. Flexible loop is very convenient for removing cinders, dirt and non-magnetic particles.

Sterilization will not affect magnetic properties or loop. A hard rubber carrying case is provided with each G-S Eye Sweep.

ORDER TODAY DIRECT OR SEND FOR COMPLETE DATA

A DEPENDABLE GUIDE TO SAFETY
GENERAL SCIENTIFIC EQUIPMENT COMPANY
TESTED INDUSTRIAL SAFETY PRODUCTS

2701 W. Huntington St., Philadelphia 32, Pa.

RESPIRATORS • PUMPS • GOGGLES • SHIELDS • GLOVES • APRONS • HELMETS

For more details circle NED-992 L3 on enclosed inquiry slip

NEW VERSATILITY & ECONOMY

TINY NYLON MOLDED PARTS

A GRIES SPECIALTY

Endless new design possibilities with GRC's Nylon small parts. Greater job adaptability, precision, economy. GRC's unique facilities produce tiniest Nylon parts in one high-speed operation; delivered automatically trimmed, ready for use. Single cavity molds provide more precise tolerances. LOW MOLD COSTS!

GET ALL THESE NYLON ADVANTAGES:

• unusual toughness • good bearing qualities • wide temperature range • abrasion resistance • high strength • light weight • moldable in complex shapes and thin sections.

MAXIMUM SIZE .025 oz.–1¼" long NO MINIMUM

Tiny parts also available in other thermoplastics, specializing in AUTOMATIC INSERT MOLDING.

Write today for Bulletin and Demonstration Samples.

All parts actual size.

GRIES REPRODUCER CORP.

143 Beechwood Ave., New Rochelle, N.Y. Phone: New Rochelle 3-8600

For more details circle NED-993 L3 on enclosed inquiry slip

Hotpack TRADE MARK

SEND FOR CATALOG

MULTIPLE SHELVES

DRYING OVEN

No. 620

TEMP. CONTROL ADJ.
From ROOM to 360° F.
Temp. Dif. 5° F.

Provides a steady gentle flow of heat that is well suited to such purposes as chemical baking, stress relieving, core baking, instrument drying and mold baking.

Ruggedly built for long, accurate, efficient service.

Corrosion resistant stainless steel interior. Exterior finish with baked-on grey enamel. Two sizes.

NO.	Interior Size	Shelves	Watts	Price FOB Phila.
620	30x20x72	4	2400	525.00
622	30x24x72	4	3600	725.00

THE ELECTRIC Hotpack COMPANY, Inc.
5063 COTTMAN STREET, PHILADELPHIA 35, PA.

For more details circle NED-994 L3 on enclosed inquiry slip

New Processes & Materials

FACING TILE

interior-exterior load bearing type has finished surface inside and out

Single unit wall construction with finished facing inside and out is possible with Uniwall load-bearing facing tile. Interior wall surface on one side is ceramic glazed and exterior finish on other side is natural buff range unglazed Rugg-Tex. Units are made with a jamb slot to receive the "fin" of a metal window or blind stop extension of a wood window. Line of interior ceramic glazed shapes is available to supplement standard interior-exterior units.

All sizes are equally adaptable for modular or nonmodular construction. With ⅜-in. allowance for mortar joints, nominal dimensions are: wall thickness, 8 in.; face size, 4 x 12 in. Interior ceramic glazed facing units are 2 and 4 in. thick with nominal 4 x 12-in. face dimensions. Shapes are available to meet all normal building requirements. Made by **Natco Corp.**, Dept. P, 327-29 Fifth Ave., Pittsburgh 22, Pa.

For more details circle NED-995 L3 on enclosed inquiry slip

LAMINATING RESINS

sample kit is available for reinforced glass cloth tooling

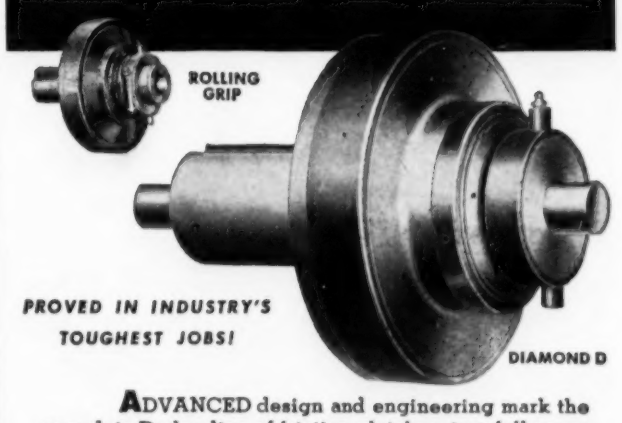
Developed for use with glass cloth reinforcing in such tooling applications as fabrication of jigs and fixtures, models, prototypes, molds and tool masters, Toolplastik L-900 and Toolplastik Gelkote L-910 are nonshrink laminating resins. Former is for standard laminating applications, while latter produces a high gloss surface on laminating tools. To make a tool that does not require polishing or machining with good surface finish, L-910 is used to form the surface layer and is backed by reinforcing glass fabric and L-900 to the required thickness.

Special facilities and equipment are unnecessary for use of materials, which offer good workability at room temperatures and dimensional stability. A laminating pilot production kit is available for $15 and contains everything necessary for the construction of a laminated tool. Made by **Rezolin, Inc.**, 5736 W. 96th St., Los Angeles 45, Calif.

For more details circle NED-996 L3 on enclosed inquiry slip

DODGE

FRICTION CLUTCHES



PROVED IN INDUSTRY'S TOUGHEST JOBS!

ADVANCED design and engineering mark the complete Dodge line of friction clutches, in a full range of sizes, with capacities from 1/3 hp. to 470 hp. Rolling Grip clutches have no toggles, combine ease of control with positive drive. Diamond D clutches, compact, fully enclosed, have stamina for grueling service. For detailed information write

DODGE MANUFACTURING CORPORATION, 2100 Union St., Mishawaka, Ind.

DODGE of Mishawaka, Ind.

For more details circle NED-997 L3 on enclosed inquiry slip

WHEN YOU NEED SMALL DRILLS
Perfectly Sharpened — Quickly — Easily
Your Only answer is the famous—

Also Available on Steel Cabinet Stand

Black Diamond PRECISION *DRILL GRINDER*

✓ ONLY drill grinder that mechanically positions drill for grinding!
✓ ONLY drill grinder that grinds BOTH LIPS IN ONE OPERATION!
✓ ANYONE can grind a drill expertly on a Black Diamond
No guesswork—just position the drill, grind and you have a perfect point in seconds! *Write for bulletin.*

BLACK DIAMOND SAW AND MACHINE WORKS, INC.
NATICK, MASSACHUSETTS

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The lowest costing lift truck you can buy, the Red Arrow features unusual ease of operation, speed and economy. Maintenance cost practically nil. Machined standardized parts and machined bolted frame . . . eliminate downtime. Pays for itself many times a year in time and manpower saved.
Send for Bulletin 252 Today.

LIFT TRUCKS INC., CINCINNATI 14, OHIO

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PET POWER TOOLS

You get ALL these features when you buy PET DRILLS!

If you want the best, take an extra look at the PET Superduty Drill above! Here's a continuous-duty drill—built to *work* right and *handle* right.

And, the price is right, too! All features shown are *standard* in PET Superduty Drills—at a *standard drill price!* Complete line of 54 ¼", ⅜" and ½" models gives you wide selection—in pistol or saw-type grip. Use coupon below to get complete facts!

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In Canada: Portable Electric Tools, Ltd., 452 Birchmount Rd., Toronto

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Please send me free PET Superduty Catalog and name of nearest distributor.

Name_____ Title_____
Company_____
Address_____
City_____ State_____

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If you use bin-stored materials you can handle them better with a Simplicity Os-A-Veyor type bin feeder

If you move anything that can be stored in a bin, chances are a Simplicity Os-A-Veyor type bin feeder will cut handling costs and speed up your operations. Simplicity Bin Feeders practically eliminate bridging and stoppage because they feed from the full length of the bin—materials will flow as you need them. Simplicity bin feeders are ideal, too, for storing and moving materials that are improved by tempering. Simplified power and operating mechanism keeps maintenance costs low, makes servicing easy. Write us today for complete information.

Simplicity ENGINEERING CO., DURAND, MICH. 101

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HOT-SPRAY FINISHING ASSURES ABSOLUTE QUALITY CONTROL!

AND A BETTER PRODUCT!

Fewer Coats WITH Greater Build GIVES FASTER APPLICATION AT REDUCED COST!

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One spray method..
One Controlled Viscosity
One Standard of Quality
..REGARDLESS OF HUMIDITY OR ROOM TEMPERATURE

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U. L. APPROVED
Designed for fixed installations, such as spray booths .. $99.50

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Builders of practical industrial and automotive hot-spray equipment
Dept. NED-11—720 POLK AVE.—HOUSTON, TEXAS

Please send me information on your line of hot spray heaters best suited to our work. (Type of products being finished) .....
Application is conveyorized ..... turntable ..... mobile ..... other (check one). Average volume of material per gun per hour ..... Type of material ..... Please have representative call .....

Name .....
Company .....
Address .....
City ..... State .....

For more details circle NED-1004 L3 on enclosed inquiry slip

New Literature & Catalogs

Rubber Insulated Power Cables

Okonite Co.—Advantages, economies and versatility of "Rubber Insulated High Voltage Power Cables up to 35,000 Volts" are covered in detail in 128-page illustrated book OK-1075 of same name. Much technical data are included. Twenty-nine pages are devoted to detailed drawing and instructions for splicing and terminating these cables.

For more details circle NED-1005 L3 on enclosed inquiry slip

Electric Ovens & Furnaces

Blue M Electric Co.—Electric ovens, furnaces, glass annealing ovens, utility water baths, humidity cabinet and incubators used in chemical, medical, plastics, metallurgical and other industries are described and illustrated in 40-page catalog. Applications include drying, baking, preheating, conditioning and tempering.

For more details circle NED-1006 L3 on enclosed inquiry slip

Automatic Time Switch

General Electric Co.—Information on design, operation and application of the type T-27 heavy duty automatic time switch is found in 8-page illustrated brochure GEC-535C. Applications include street lighting control, signs, refrigerator defrosting and industrial uses. Prices and specifications for the switch are given.

For more details circle NED-1007 L3 on enclosed inquiry slip

Timers

Lektra Laboratories, Inc.—Electronic, synchronous and cycling timers are subject of catalog. It enables user to select the proper timer for specific photographic uses, industrial laboratory techniques and control of industrial processes.

For more details circle NED-1008 L3 on enclosed inquiry slip

Float & Lever Valves

Schade Valve Mfg. Co.—Two basic features of float and lever valves described in illustrated catalog 107 are balanced construction and tight closing. Its 16 pages offer many data on valve selection, construction, applications and on the various models available. Use can be with air, gas and various liquids, including water and oil.

For more details circle NED-1009 L3 on enclosed inquiry slip

Light-Wall Pipe Fittings

Horace T. Potts Co.—Speedline corrosion-resistant fittings for light-walled pipe are described and illustrated in 24-page catalog. Fittings have extra straight length after all bends and are said to reduce initial costs and simplify installation. They are particularly suitable for process lines. Complete ordering information and some helpful technical data are given in catalog.

For more details circle NED-1010 L3 on enclosed inquiry slip

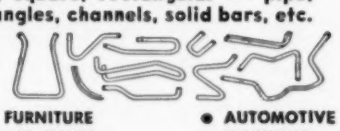
UNDER $2000

Automatic TUBE BENDER

BEND-EX AIR COMPRESSION TUBULAR BENDING MACHINE

Makes Over 900 bends an hour

Adaptable to All bending . . .
round, square, rectangular — pipe, light angles, channels, solid bars, etc.



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- AIR CONDITIONING
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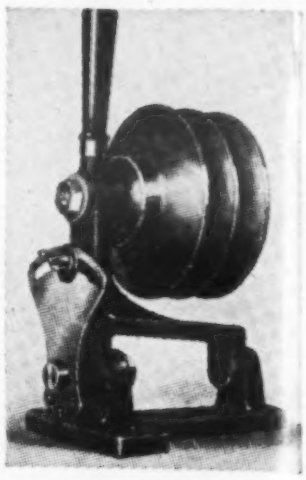
PAUL MACHINE TOOL & DIE WORKS
4600 S. Kedzie Dept. N-5
CHICAGO 32, ILLINOIS

For more details circle NED-1011 L3 on enclosed inquiry slip

VARIABLE SPEED CONTROL



Variable speed control of V-belt and equipment up to a maximum 3 to 1 ratio is provided by this single lever controlled unit. Mechanically simple in design and sturdily constructed to withstand hardest service, models 1A and 2A Toledo variable speed controls have numerous unique features including: plain, smooth pulley, eliminating noise and vibration; stepless speed variation up to full 3 to 1 ratio; minimum pulley diameters are increased to transmit greater H.P. over entire range; new pulley design providing cylindrical bottom for V-belts which fixes minimum pitch diameter, preventing damage to belts and giving increased torque; single arm support, for easy belt application; large shaft, oilite bearings and lubricant reservoir; sector plate serving as dial indicator and additional locking medium; unusually attractive prices.

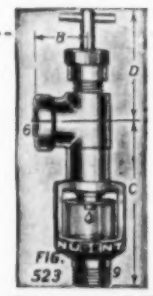
Wheel assemblies can also be purchased without mountings for application on machines providing built-in speed control.

If you have a variable speed control problem, either on plant equipment or on machinery you build for sale, investigate the Toledo variable speed control . . . you'll be interested in its efficiency and low price. Ratios as high as 10 to 1 are available. **The Toledo Timer Co., 2224 Albion St., Toledo, O.** Adv.

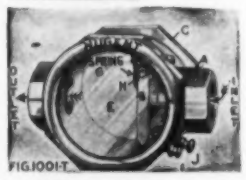
For more details circle NED-1012 L3 on enclosed inquiry slip

DON'T GUESS

ABOUT LUBRICATION... use Nugent Sight Feed Valves and Sight Indicators to be sure!



SIGHT FEED VALVES provide a means of regulating and visually checking oil flow at the point of delivery to bearings, gears, etc. For exact lubrication, oil flow through the valve is controllable from 2 drops per minute to 21 gals. per hour.



SIGHT FLOW INDICATORS tell you at a glance, or by the sound of an alarm bell, whether or not oil is flowing properly to vital parts—enable you to correct troubles quickly and protect valuable equipment. *Write for descriptive literature.*

NUGENT TRADE MARK Est. 1897

Wm. W. Nugent & Co., Inc.
401 N. Hermitage Ave. CHICAGO 22, ILLINOIS

Oil Filters, Oiling and Filtering Systems, Telescopic Oilers, Oiling Devices, Sight Feed Valves, Flow Indicators . . . *Representatives in Principal Cities*

For more details circle NED-1013 L3 on enclosed inquiry slip

FOR DEFENSE INDUSTRY MACHINIST WORKMAN FARMER

1ST IN METAL TOOL BOXES

CASES—CHESTS—CABINETS

Here are the world's finest metal boxes. They're better constructed—better looking. Known for their fine materials—workmanship—attractive design. These boxes outlook—outlast—outsell competition. Write for FREE book, including complete information.

WATERLOO METAL BOXES AND CHESTS

Waterloo VALVE SPRING COMPRESSOR CO. WATERLOO, IOWA

For more details circle NED-1014 L3 on enclosed inquiry slip

PERECO
Electric PIT FURNACE

For jobs where top loading from hoist or conveyor is desirable

If you want the efficiency and economy of clean, accurately controlled electric heat Pereco can meet your specialized needs. This is just one example . . . as hundreds of the nation's leading firms know from their own use of Pereco Furnaces.

Highlights of Model PT-2550

Loading Area: 18" w. x 25" d. x 42" h.
Overall Size: 48" w. x 53" d. x 82" h.
Max. Temperature: 2500°F.
Max. KW- 54-440/60/3
Elements: 12 silicon carbide-mounted 6 on each side.

Power Controls: Voltage regulating — 36 tap — magnetic controller.
Temp. Controls: Any standard make or type as required—panel mounted.

Write us today about your needs

Standard and Special Units from 450° F. to 5000° F.

PERENY EQUIPMENT COLUMBUS OHIO

PERENY EQUIPMENT CO.
Dept. G, 893 Chambers Rd., Columbus 12, Ohio

▲ For more details circle NED-1015 L3 on enclosed inquiry slip ▲

SOUND WELDS
without preheat

ARCOS GRADE	A.W.S. SPEC.
Tensilend 70	E7016
Tensilend 100	E10016
Tensilend 120	E12015
Manganend 1M	E9015
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Use ARCOS Low Hydrogen Electrodes

Facts prove that underbead cracking has never been known to occur on welding high tensile steels with "properly designed" low hydrogen electrodes.

As a pioneer in this field, Arcos offers you the most complete line of Low Hydrogen Electrodes—ALL "properly designed"—and backed by the most rigid manufacturing controls in the industry. That's your assurance of consistently high quality weld metal for every job on high tensile steels. Arcos Corporation, 1500 South 50th St. • Philadelphia 43, Penna.

WELD WITH ARCOS
Stainless, Low Hydrogen and Non-Ferrous Electrodes

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BRAND NEW

Cast Iron Housing

Black Wrinkle Finish

Sponge Rubber Skid Pad

LINEMASTER
CLIPPER FOOT SWITCH

The streamlined Clipper Switch matches your unit's most modern features! Complete with all the rugged features of a heavy industrial switch. It is easily operated from sitting or standing position giving the worker a free hand for greater efficiency. Nearly 100% dustproof and yet accessible to wiring—just two screws to remove to reach interior mechanism.

Size—4½" x 3½" x 1½" Wght. 2 lbs.

WRITE FOR BULLETIN AND PRICES

Let us quote on your switch requirements

LINEMASTER SWITCH CORP.
424 Woodstock Terrace, Woodstock, Conn.

▲ For more details circle NED-1017 L3 on enclosed inquiry slip ▲

New Processes & Materials

NAMEPLATE PROCESS
any quantity made economically

Using a photochemical process, ten nameplates can be made at a unit cost almost as economically as a quantity of 500. Nameplates can be supplied on any nonporous surface such as metal or glass. They can also be made of 0.003-in. aluminum foil backed with a high tensile bonding material. Various colors are available. Process can also reproduce 120-line half-tone prints with fine detail. Nameplates can be made from customer's art work, or rough sketches can be made into the finished art work by the originator of the process. Company will also supply process and materials to other companies. Developed by **Henry G. Dietz Co.,** Dept. NED, 12-16 Astoria Blvd., Long Island City 2, N. Y.

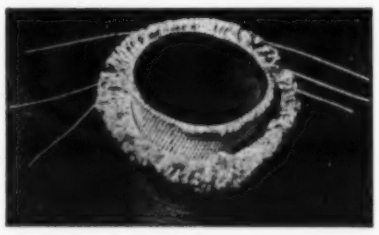
▲ For more details circle NED-1018 L3 on enclosed inquiry slip ▲

METALLIC BERYLLIUM FLAKE
highly ductile for hot pressing

Minimum purity of 99.5 per cent is reported for metallic beryllium flake now available on commercial scale. Feature is flake's high ductility which makes it particularly suited to fabricating applications such as the hot pressing of forms and shapes. Pure beryllium is also used for windows of x-ray tubes and in applications involving nuclear energy. Flake is made by **Beryllium Corp.,** Dept. F, Reading, Pa.

▲ For more details circle NED-1019 L3 on enclosed inquiry slip ▲

GLASS FIBER FIRE HOSE
is lightweight, strong and compact



Lightness, compactness and strength are the principal features of this glass fiber yarn fire hose. Dry, it is 20 per cent lighter than conventional cotton hose, and it will not absorb water in use. It also remains flexible at low temperatures. Where a 50-ft length of cotton hose forms approximately a 28-in. diameter coil, an equivalent length of the glass fiber hose forms a coil of 24-in. diameter or less. Heavy trucks have been driven over the hose while at full operating pressure, and subsequent x-ray and other tests have not revealed damage. Made by **Boston Woven Hose & Rubber Co.,** Dept. NE, P.O. Box 1071, Boston 3, Mass.

▲ For more details circle NED-1020 L3 on enclosed inquiry slip ▲

NEW WILLSON Interchangeable Respirator

First truly interchangeable respirator. Requires no additional parts or accessories to use any one of the cartridges, filters, or combinations shown.

These Respirators are individually packed in sealed, transparent plastic bags enclosed in a sturdy metal-edge box.

Write for the new bulletin fully describing these new Willson Respirators. Standardization on the new Willson No. 800 Interchangeable Respirator can greatly simplify your respiratory protective inventory.

More than 300 safety products carry this famous trademark

WILLSON® Established 1870

WILLSON PRODUCTS, INC., 219 Washington Street, Reading, Pa.

▲ For more details circle NED-1021 L3 on enclosed inquiry slip ▲

Stop Accidents! Prevent Movement of Parked Trucks, Trailers!

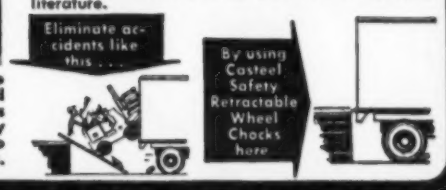
WITH CASTEEL *Safety Retractable* WHEEL CHOCKS

Holds Any Vehicle Safely . . . Releases Instantly . . . Can't Wedge or Move

Here—at last—is a *retractable* wheel chock, capable of holding any vehicle or load safely yet releases instantly regardless of how tight it's wedged under the tire. Casteel Safety Retractable Wheel Chocks eliminate dock accidents during loading with heavy fork trucks by keeping the unit securely held against the dock—preventing forward movement of the vehicle. Casteel Wheel Chock's retractable feature saves time when chock is removed . . . prevents dock tie-ups, increases operating efficiency, encourages chock use and promotes safety and safety consciousness. Made of alloy steel, (80,000 lb. per sq. in. tensile strength), with a wide curved bearing plate, Casteel Safety Retractable Wheel Chocks are your best insurance against costly accidents. Chock Holder which may be welded or bolted to dock or truck available. Write for prices and illustrated literature.

Casteel Safety Wheel Chock in open position. Note wide bearing on tire.

Step on the handle and Chock moves backward away from tire to closed position.



CALUMET STEEL CASTINGS CORP.
1648 Summer Street Hammond, Indiana

▲ For more details circle NED-1022 L3 on enclosed inquiry slip ▲

DENISON LOXSWITCH

the new precision heavy duty

LIMIT SWITCH

Here is the answer to the need for a trouble-free, long-life limit switch. It has a trigger-fast snap action built into a strong and dependable case. It was designed by M. L. Jeffrey, a man who has devoted more than 20 years to the successful designing, testing and manufacturing of limit switches.

LOXSWITCH has exceptionally long life—20,000,000 actuations by mechanical test.

LOXSWITCH has a large wiring compartment—plenty of room for multiple wiring.

LOXSWITCH has trigger fast break with cushioned make.

LOXSWITCH is easily maintained—all parts are quickly replaceable with ordinary tools.

LOXSWITCH mountings are adaptable to most existing installations.

Guarantee

We guarantee the DENISON LOXSWITCH against mechanical and spring failure for one year or 5,000,000 operations, whichever occurs first, when installed so as not to exceed 25° lever overtravel. We will replace free of charge, postage prepaid, any parts which so fail if returned to us. Since we have no control over electrical load to which this switch might be subjected we cannot guarantee the electrical components.

R. B. DENISON MFG. CO.
4220 Hough Ave. Cleveland 3, Ohio

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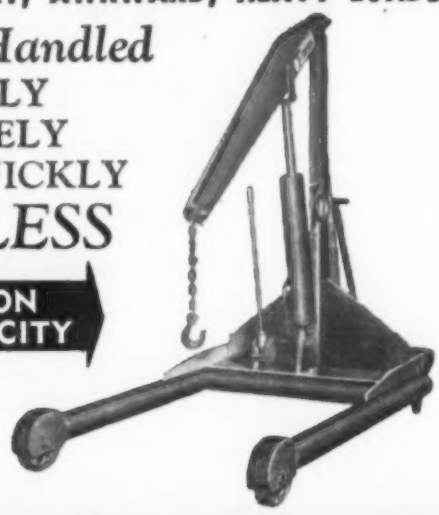
BULKY, AWKWARD, HEAVY LOADS

Handled

· EASILY
· SAFELY
· QUICKLY

for LESS

2 TON CAPACITY



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Gives all the facts about Ruger's complete line of hydraulic floor and truck mounted cranes, capacities 1000 to 6000 lbs.

RUGER CRANES

619 West Fourth St. UHRICHSVILLE, OHIO

For more details circle NED-1024 L3 on enclosed inquiry slip

Learn how Farval can protect your machine and save you money

FREE—Just off press! Bulletin 26 has 20 pages of photographs, drawings, diagrams and text, showing the complete line of Farval systems. Send for it today.

● This new 20-page databook brings you up-to-date on centralized lubrication. Color drawings show step-by-step operation of the unique Farval Dualine valve. All types of systems illustrated—manual, heavy-duty automatic, light-duty automatic DC 20 and Farval Spray Valve. Also included are reports of user experience that indicate savings in oiling labor, lubricant, bearing expense and production time that you can expect on your *Farvalized* machines.

THE FARVAL CORPORATION
3283 East 80th Street • Cleveland 4, Ohio
Affiliate of The Cleveland Worm & Gear Company, Industrial Worm Gearing

For more details circle NED-1025 L3 on enclosed inquiry slip

NEW DESIGN OF THIS PULLEY LINE GIVES LONGER WEAR IN ANY SERVICE

American All-Steel Conveyor Pulleys in 400 different sizes outlast any other pulley made. End discs and hubs fabricated to insure concentricity. Special welding techniques give extra strength and maximum weld penetration to all joints. Available in four types for all classes of service.

American Steel-Split Pulleys built to run at 6000 feet per minute with an ample factor of safety are available from distributors everywhere. Interchangeable bushings mean quick, tight fit on any shaft. Over 500 sizes. See your distributor or write today for free catalogs.

For more details circle NED-1026 L3 on enclosed inquiry slip

New Literature & Catalogs

V-Belt Drives

Boston Woven Hose & Rubber Co.—52-page illustrated technical manual comprehensively covers elements of V-belt drives. Many data are in tables, graphs and diagrams. Subjects include how to select V-belt and V-flat drives, design, nonstandard drive instructions and speed-up drives. It is punched for loose-leaf notebooks.

For more details circle NED-1027 L3 on enclosed inquiry slip

Dial Thermometers

Foxboro Co.—Data on dial thermometers for long distance measurement are found in 16-page illustrated bulletin 467. Variety of ranges, and bulbs and tubing accessories available are covered. Both Centigrade and Fahrenheit ranges are listed for Class II and III systems (vapor pressure and gas pressure). Construction and installation methods are shown.

For more details circle NED-1028 L3 on enclosed inquiry slip

Sheet Grinding & Polishing

Murray-Way Corp.—Micro-Polish machines for polishing coils, blanks and sheets of steel, brass, aluminum, rubber and other materials are subject of 10-page bulletin. Engineering specifications and auxiliary equipment of the wet or dry processing unit which produces a high quality surface without burning are contained in it.

For more details circle NED-1029 L3 on enclosed inquiry slip

Heavy Fuel Oil Burners

Ray Oil Burner Co.—Fully automatic Ray heavy fuel oil burners start themselves, follow the load demand and stop themselves. Their applications, operation and features of models available are found in 8-page folder A-604. Operating cycle is started when temperature or pressure-actuated controls call for heat.

For more details circle NED-1030 L3 on enclosed inquiry slip

Remote Control of Valves

Stow Mfg. Co.—By using flexible shafting, inaccessible valves can be remotely controlled. Valves with up to 27-in. diameter handwheels are operable by the flexible shafting described in illustrated design manual No. 528 with 16 pages. Many valves can also be controlled from one station. Chart tells correct shaft size for any valve.

For more details circle NED-1031 L3 on enclosed inquiry slip

Gear Speed Reducers

D. O. James Gear Mfg. Co.—84-page illustrated catalog 42-B shows right angle gear speed reducers in parallel and vertical drive types. Ratios from 1:1 to 1100:1 and ratings from 0.14 to 350 hp are available. Specifications and selection data are given.

For more details circle NED-1032 L3 on enclosed inquiry slip

Heat Insulation

Owens-Corning Fiberglas Corp.—Made from a chemical compound of lime and silica, Kaylo heat insulating products featured in illustrated bulletin are effective up to 1200° F. Pipe and block forms are among those available. Bulletin gives all product characteristics and various helpful selection data.

For more details circle NED-1033 L3 on enclosed inquiry slip

10-in. Circular Wood Saw

Yates-American Machine Co.—Model G-110 circular 10-in. wood saw is subject of illustrated bulletin W-640. Features and specifications are shown. Unit is heavy-duty type with 3⅛-in. cut and micrometer fence adjustment.

For more details circle NED-1034 L3 on enclosed inquiry slip

WITH WATSON-STILLMAN DOUBLE ACTING AIR ENGINE PUMP

Connect this light efficient, portable unit to your low pressure air line. Result — Pressures for all types of Hydrostatic testing.

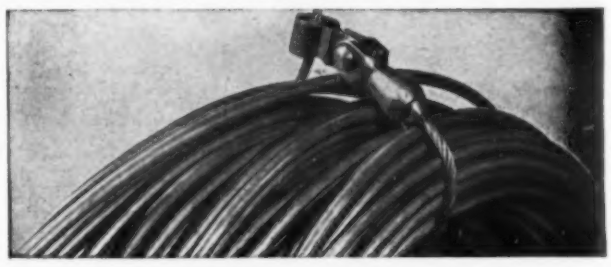
Can also be used for operation of small Hydraulic machinery and jacks. Available in discharge capacities up to 6000 p.s.i.

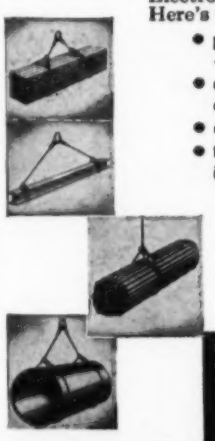
Write for literature.

WATSON-STILLMAN FITTINGS DIVISION
H. K. PORTER COMPANY, INC.
142 Aldene Rd., Roselle, New Jersey
9-0-15

For more details circle NED-1035 L3 on enclosed inquiry slip

ELECTROLINE CHOKER SLING FITTING ADJUSTS AUTOMATICALLY TO ANY ANGLE OF PULL





For prolonging wire rope life, ease of attachment and complete safety, this revolutionary Electroline Choker Sling Fitting tops them all. Here's why:

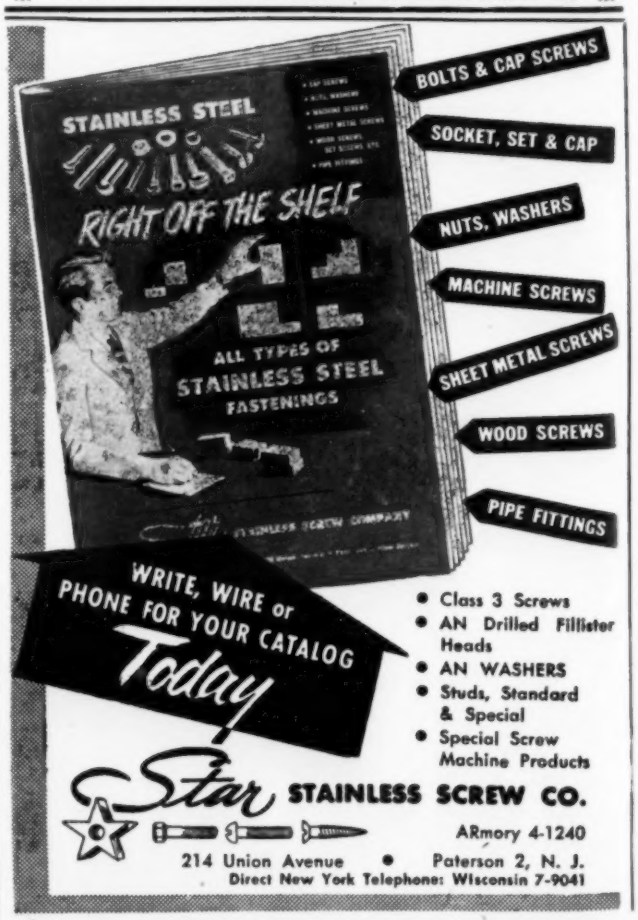
- pivoted members adjust automatically *to any load* —they take the bend, instead of the rope.
- can't disengage under tension, or shock, the fitting always engages the rope.
- easy to apply—goes on in seconds, saves time.
- the Electroline Choker Sling Fitting outlives the rope it protects, reuse it over and over again.

A time and labor saver—in mills, factories, docks, material yards, warehouses: Wherever wire rope choker slings are used.

Send for bulletin "King of Sling Fittings"—which tells all.

Electroline Company
4121 South La Salle Street
CHICAGO 9, ILLINOIS
In Canada: Powerlite Devices, Ltd., Toronto

For more details circle NED-1036 L3 on enclosed inquiry slip



For more details circle NED-1037 L3 on enclosed inquiry slip

NOT TOO LITTLE... NOT TOO MUCH...BUT JUST ENOUGH COOLANT

FULFLO CENTRIFUGAL COOLANT PUMPS

COOL TOOLS

do a better job . . . last longer . . . keep costs down while production goes up. Simplicity of construction and design . . . precision operation . . . everything goes right

FULFLO PUMPS

Write on your letterhead for professional edition of FULFLO MECHANICAL DATA BOOK

Please state if . . for Pumps . . for Valves or . . for both

MODEL FVM vertical
MODEL FHM horizontal

Flanged mounts; ¼ hp.; 30 gal. per min. mechanical seal.

FULFLO THE FULFLO SPECIALTIES CO. Inc. BLANCHESTER, OHIO

For more details circle NED-1038 L3 on enclosed inquiry slip

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NBP CCA

NOVEMBER, 1953

2,647,680 LBS. SPEED PATCH PURCHASED BY FIVE CUSTOMERS

ONE CUSTOMER HAS PURCHASED 1,277,171 POUNDS

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READY MIXED • NO WAITING • TRUCK OVER EACH PATCH AT ONCE ORDER TODAY!

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Manufacturers of a Complete Line of Building Maintenance Materials
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For more details circle NED-1043 L3 on enclosed inquiry slip

GEAR PROBLEMS? Check with- FAIRFIELD!

If you use gears in the product you make, we believe it will pay you, as it has others, to become acquainted with FAIRFIELD—the place where fine gears are produced to meet your specifications EFFICIENTLY, ECONOMICALLY! Fairfield's production facilities are unexcelled for making all kinds of high precision, automotive type gears such as are now finding wide use in all branches of industry: for tractors, trucks, and buses . . . for agricultural implements . . . for construction machinery . . . for machine tools. Ask for latest literature describing Fairfield's facilities. Your inquiry will receive prompt attention.

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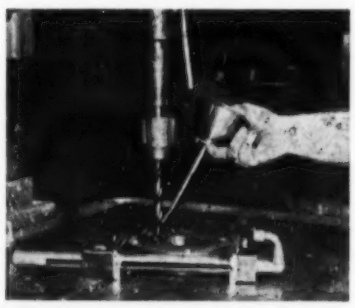
For more details circle NED-1039 L3 on enclosed inquiry slip

New Processes & Materials

METAL-CUTTING FLUID for tapping and threading operations



For threading and tapping stainless steel, titanium, and other difficult-to-machine materials, Tapeze is reported to reduce the force required in machining, thus reducing tap breakage and increasing permissible cutting speed. Compound is applied to the tool at the cutting point, and is stated to render a microscopic surface layer of the work brittle and more easily cut. Half-pint samples of the compound are available for shop tests, and regular packaging is in pint, gallon, and five-gallon sizes. Made by **Metalloid Corp.**, 514 N. Jefferson, Huntington 1, Ind.

For more details circle NED-1041 L3 on enclosed inquiry slip

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WITH THE VERY BEST FACILITIES

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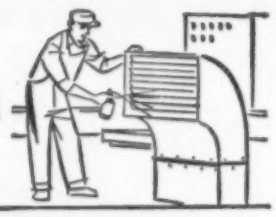

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Completely Portable

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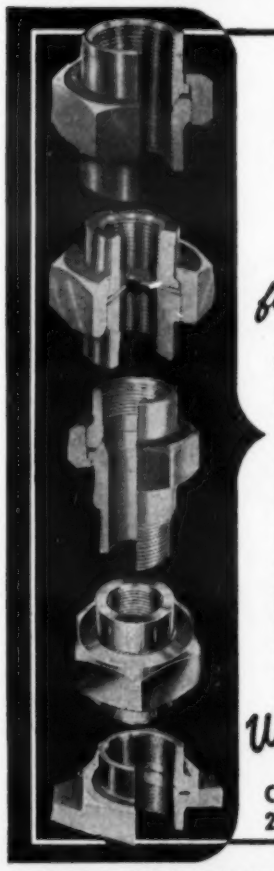

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for all temperatures for all pressures!

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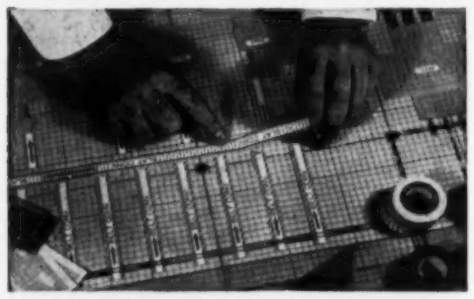

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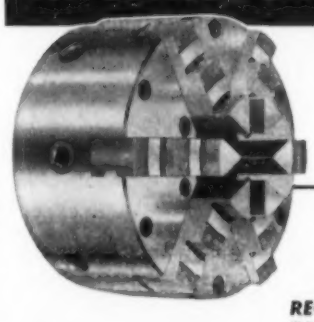

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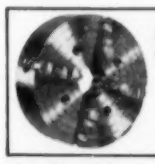

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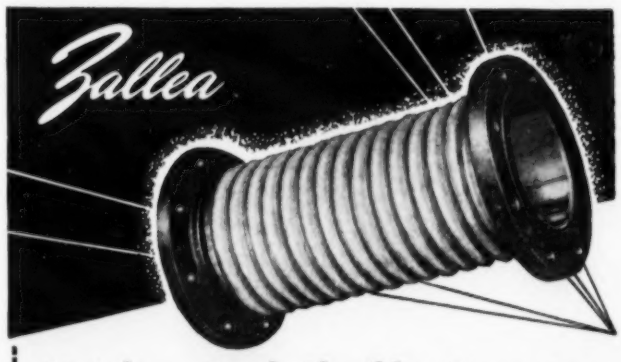

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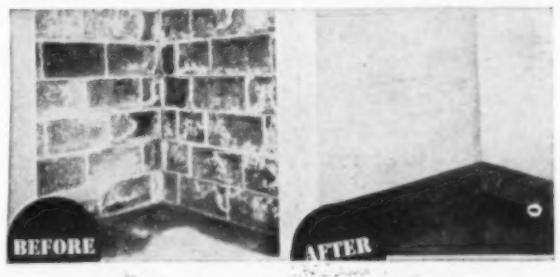

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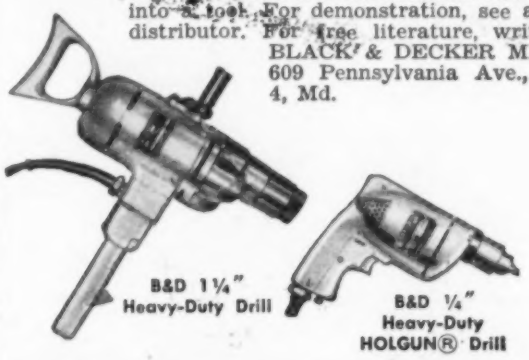

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